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BASE-LEVEL PLANNING AND IMPLEMENTATION

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This Air Force Instruction (AFI) implements Air Force Policy Directive (AFPD) 33-1, *Command, Control, Communications, and Computer (C4) Systems.* It provides direction for C4 systems planners. It outlines standardized management practices and tells how to manage planning and implementation of C4 systems and the base-level infrastructure. This instruction provides guidance to activities requiring, implementing, and supporting C4 systems and defines management responsibilities when program acquisition will cost less than $5 million. See AFPD 10-6, *Mission Needs and Operational Requirements*, and AFI 10-601, *Mission Needs and Operational Requirements Guidance and Procedures*, for programs with acquisition costs of $5 million or more. Provide a copy of major command (MAJCOM) and field operating agency (FOA) supplements to Headquarters Air Force Communications Agency (HQ AFCA)/XPPD, 203 W. Losey Street, Room 1065, Scott AFB IL 62225. Refer recommended changes and conflicts between this and other publications to HQ AFCA/XPPD, using AF Form 847, **Recommendation for Change of Publication,** with an information copy to Headquarters United States Air Force (HQ USAF)/SCXX, 1250 Air Force Pentagon, Washington DC 20330-1250.

(AFMC) This supplement does not apply to the Air National Guard or US Air Force Reserve units and members. This supplement contains guidelines and procedures for base-level planning and implementation of C4 resources within AFMC. It is recommended that each base C4 systems officer (defined in basic Air Force instruction) develop local procedures to address local unique needs. Base supplements can add to but not take away from the Air Force instruction and major command (MAJCOM) supplement.

SUMMARY OF REVISIONS

This revision updates the entire document. It expands considerably in the plans area, and provides a base level mobility tasking list as an attachment. It adds additional responsibilities for the review of military and minor construction projects and the base comprehensive plan, as well as the processing of the AF Form 103, **Base Civil Engineering Work Clearance Request**. It establishes the requirement for a periodic planning forum and defines audit responsibilities.

Supersession history: AFR 700-4, Vol 1, 15 March 1985.

(AFMC) This supplement revises the previous edition.

AFI 33-104, 1 August 1996, is supplemented as follows:

Chapter 1

GENERAL

1.1. Applicability and Scope. This instruction applies to personnel working in base C4 systems planning and implementation functions and those who require, plan, install, modify, relocate or remove C4 systems. This instruction standardizes the planning and implementation of C4 systems into a base-level infrastructure. It also provides procedures critical for day-to-day management of C4 systems planning, implementation, and resources; and identifies general managerial tasks, applicable references and methods of accomplishment.

1.2. Terminology. The term "C4 systems planner" refers to base-level C4 systems planning and implementation personnel. A "Base-level C4 system" is any C4 system planned, implemented, or installed to satisfy mission requirements within the physical confines of a single air base, MAJCOM headquarters, or other geographic area administered by the Air Force. These systems result from downward directed (which may thus impact a number of "bases") or upward generated requirements. Attachment 1 explains the references, abbreviations, acronyms and terms used in this instruction.

1.3. Need for C4 Systems Planning and Implementation. C4 systems must adapt to an environment that is constantly changing because of mission tasking, C4 systems user demands, new technologies, and regulatory changes. Successful planning and implementation of these systems require continual user contact and C4 systems review. This focuses on the ability of current and future C4 systems to support C4 user needs, and on the timely identification, funding, and implementation of required C4 resources. C4 systems begin with planning and evolve through system implementation to deliver end-products on time and within budget. The basic source of C4 systems planning data is host-base resources. Implementation of planned C4 systems is at base level. The cyclic nature and extended time span of this process never ends and relies on factual base resources information.

Chapter 2

C4 SYSTEMS BASE-LEVEL PLANNING AND INTEGRATION

2.1. Planning Process and the C4 Systems Blueprint. C4 systems planning examines mission requirements and provides broad goals, strategies, and guidance for developing future capabilities (See AFI 33-102, *Command, Control, Communications, Computers, and Intelligence (C4I) Capabilities Planning Process*). The C4 Systems Blueprint is an essential C4 planning and implementation tool developed for this purpose. The C4 systems planner and Systems Telecommunications Engineering Manager-Base Level (STEM-B) must interact with users and review C4 systems; examine peacetime and wartime mission taskings; compare potential needs with existing base infrastructure; identify shortfalls and excesses; and integrate C4 systems to achieve interoperability.

2.1.1. Scope of Planning. Functional areas and MAJCOMs use intermediate planning documentation to project their mid and long-term requirements. Base-level C4 planning starts and ends at the base utilizing the intermediate planning documents. As such, base-level C4 systems planning is an integrated look into the overall Air Force planning and budgeting process.

2.1.2. Cooperating on C4 Systems Planning. The STEM-B serves the wing commander and C4 Systems Officer (CSO) as a C4 technical advisor. Together with the base C4 systems planner, the base civil engineering community, and the system users, they develop the base C4 Systems Blueprint (see Attachment 2). Other communications unit flights and base-level activities must coordinate and cooperate in all phases of planning and implementation.

2.1.3. C4 Systems Blueprint. This is a host wing and MAJCOM approved planning document that provides a broad picture of C4 systems required in the base C4 infrastructure. It covers the existing infrastructure baseline, on-going programs and projects, short and long range planned systems, identifies requirements and estimated resources required. (Attachment 3).

2.2. User Contacts and Systems Review. The base-level C4 systems planner:

2.2.1. Meets with C4 users on a continual basis to learn about their organizational structures, unit missions, and taskings, as defined in war, contingency, and operational plans, in order to gain a better understanding of their C4 systems needs and to educate users about C4 systems.

2.2.2. Reviews the user's current systems for adequacy and currency, using the C4 Systems Blueprint and C4 Systems Installation Records (CSIR).

2.2.3. Promptly identifies what kind of C4 systems the users need and what mission conflicts might exist.

2.2.4. Keeps the planning documentation current, such as the C4 Systems Blueprint and MAJCOM C4 systems plans.

2.2.5. Participates in briefings, conferences, and meetings (e.g., facility utilization boards, space utilization boards, financial working groups, and site activation task forces) to keep informed on what is happening at the base and to provide timely information on C4 systems planning, development, and implementation.

2.2.6. Evaluates the existing C4 infrastructure for supportability of current and projected mission tasking.

2.2.7. Identifies existing or future C4 systems shortfalls.

2.3. C4 Infrastructure. The user identifies needs (requirements) in the C4 Systems Blueprint or other planning documentation. The CSO, C4 systems planners and the STEM-B provide technical solutions for the requirements and verify that the systems will work in the base infrastructure. They study the current C4 systems infrastructure to decide if it can support current and projected mission taskings. The C4 systems planner and the STEM-B must continually review C4 systems infrastructure capacities and configurations.

2.4. C4 Systems Shortfalls. The user must identify existing or future shortfalls according to AFI 33-103, *Requirements Development and Processing*, or AFI 10-601. You may use the AF Form 3215, **C4 Systems Requirements Document**, to submit requirements that fall within the purview of AFI 33-103. The C4 systems planner and STEM-B accurately document the requirements in the C4 Systems Blueprint, C4 systems requirements documents, or Mission Need Statements (MNS), as applicable.

2.5. C4 Systems Excesses. The CSO must use up-to-date inventories and system configurations to verify the use and need of C4 systems. The user must identify excess systems, equipment, and services according to AFI 33-112, *Automatic Data Processing Equipment (ADPE) Management*, and AFMAN 23-110V2.

2.6. Plans. Plans support many purposes. They are developed at many levels and thus, each influence and impact the wing differently. The C4 systems planner comes in contact with a variety of types of documents related to planning. These documents include operations plans, operations orders, program action directives (PAD), programming plans (PPLAN), mobility plans, and concept plans. These are developed to satisfy either peace, contingency or wartime operations, or to develop unit objectives. The planner provides inputs to basic plans, develops annexes to basic plans, or develops support plans. The C4 systems planner is the wing C4 focal point for all these plans and normally works at the direction of the wing plans office. The C4 systems planner makes sure of the proper level of staffing of the planning documents.

2.6.1. C4 Systems Mobility and Deployment Management and Plans Evaluation. When Air Force missions require a mobile C4 capability, such as a deployable C4 system or tactical communications, the C4 systems planner provides that capability. The planner also manages the provision of C4 personnel to support C4 systems world-wide. Plans, including those from the MAJCOM, numbered Air Force, and the wing, identify operational support and contingency planning requirements. Use Air Force Manual (AFMAN) 10-401, *Operation Plan and Concept Plan Development and Implementation;*AFI 10-403, *Deployment Planning;* AFI 10-201; *Status of Resources and Training System;* AFI 10-215, *Personnel Support for Contingency Operations (PERSCO);* and the USAF War and Mobilization Plan for guidance on mobility planning for contingency operations at all levels of command. **Attachment 10** is a Base Level Mobility Tasking List, which provides items for you to consider and tailor to local conditions.

2.6.1.1. The C4 systems planner must make sure initial and sustained capabilities are available where and when needed. The planner must work with all users to determine what capabilities they need to support the applicable plans. Consider equipment, personnel and communications connectivity required.

2.6.1.2. The C4 systems planner must manage the provision of C4 personnel to support C4 systems world-wide, whether in direct support of the wing to which assigned, or in support of other

component or combatant commands. The C4 systems planner gets guidance and training from the wing mobility activity. They make sure the tasked portion of the communications activity review all plans and identify problems associated with support.

2.6.2. Base Support Planning. Operations plans may direct additional activities to your location, in which case a base support plan (BSP) is developed according to AFI 10-404, *Base Support Planning*. The C4 systems planner supports the BSP office of primary responsibility (OPR) and BSP committee to identify, evaluate, and include communications requirements are in the plan

2.6.3. PADs and PPLANs. PADs are formal planning documents, prepared at HQ USAF level, that accomplish major actions such as the reorganization or formation of a MAJCOM, organization, unit or function. The Air Force also uses PADs to direct new acquisition programs or modifications to existing programs. They state the objective of the program, assign the OPRs and Offices of Collateral Responsibility (OCR), and establish milestones. The PPLAN, written below HQ USAF level, describes major actions in greater detail, is usually more specific, and focuses more on tasks or milestones. The C4 systems planner normally provides input to higher level PPLAN annexes and manage and report the completion of PPLAN tasks. See AFI 10-501, *Program Action Directives (PAD) and Programming Plans (PPLAN),* for more information.

2.7. Defining the Requirement. In order to effectively plan, develop, and implement fast, flexible, and efficient C4 systems to support operational missions, users must clearly articulate C4 system requirements that they cannot meet with a nonmaterial solution (i.e., changes in doctrine, operational concepts, tactics, training or organization). See AFI 33-103 and AFI 10-601 for more information.

2.7. (AFMC) AFMC C4 systems developers work with C4 users to establish a process and schedule for documentation and validation of C4 requirements.

2.7.1. C4 Systems Architectures, Templates, and Blueprints. The base-level C4 systems planner must help the user define their requirements and find technical solutions that are consistent with architectural guidelines and policies. Templates and C4 Systems Blueprints help carry out the planning process, adhere to architectures, and integrate policy **Attachment 2**. Refer to AFMAN 33-125, *Technical Reference Codes,* when developing technical solutions. The Air Force Technical Reference Codes (TRC) support the C4 Planning process (see AFI 33-102*),* and provide specifics to expand on the Department of Defense (DoD) Technical Architectural Framework for Information Management (TAFIM) from an Air Force point of view. Use the TRCs in conjunction with the "HORIZON" document, the C4I Systems Master Plan, Modernization Planning Process documents (such as Mission Area Plans [MAP]developed by the MAJCOMs, and Functional Area Plans [FAP] and Mission Support Plans [MSP] developed by HQ USAF functional area staffs), and the TAFIM in developing base-level long-range plans for C4 systems.

2.7.2. Technical Solution. The CSO and C4 systems planner develop or obtain technical solutions according to AFI 33-103, after the user has identified their requirement. When needed, the appropriate level STEM reviews needs, and helps develop technical solutions and cost estimates. The STEM makes sure technical solutions are consistent with DoD, Air Force, and MAJCOM architectures. The requester approves the technical solution, commits to the allocation of resources, and, through the supporting CSO, requests implementation. This usually results in site surveys and project support agreements. The C4 systems planner makes sure the STEM-B includes the requirement and corresponding technical solution in the C4 Systems Blueprint.

2.7.2. (AFMC) Based on the complexity of the requirement, a technical solution may not be required. Local procedures will identify when a technical solution is required.

2.7.3. Requirements Documents. The base CSO develops local procedures explaining how to prepare and process C4 systems requirements documents and MNSs so they contain the necessary information. To effectively manage C4 systems requirements, the base-level C4 systems planner:

2.7.3. (AFMC) See AFI 33-103, *Requirements Development and Processing,* and AFMCS 1, paragraph 3.2.

2.7.3.1. Checks the base C4 Systems Blueprint for like requirements and compliant technical solutions.

2.7.3.2. Provides information needed to complete the requirements document.

2.7.3.3. Provides a system for managing C4 systems requirements.

2.7.3.4. Monitors the requirement and informs the requesting organization of its status.

2.7.3.5. Knows the status of resources needed for all C4 systems requirements. The requesting activity follows established local, MAJCOM, and Air Force procedures to obtain resources to implement and sustain the technical solution. See AFI 65-601V1, *Budget Guidance and Procedures,* AFI 38-201, *Determining Manpower Requirements,*and AFI 38-204, *Programming USAF Manpower,* for budget and manpower information.

2.7.3.6. Knows the assigned priority for each requirement in the engineering and installation (EI) production plan.

Chapter 3

C4 SYSTEMS BASE-LEVEL INTEGRATION

3.1. Systems Review. Base C4 personnel, users, and the STEM-B review existing and planned C4 systems capabilities in the base C4 Systems Blueprint and other planning documents to maintain a current infrastructure model.

3.1.1. Formal Planning Forum . The CSO establishes a periodic wing-level planning forum to discuss current and future issues affecting the wing's C4 infrastructure and various systems it supports. Tailor the forum to meet the wing's needs. The forum's purpose is to make sure a proactive, centralized, wing-wide focus is available to coordinate planning of the C4 infrastructure. Discussion items may include, but aren't limited to: the C4 Systems Blueprint; project implementation status; downward directed C4 systems and programs; funding issues; civil engineer projects (those in support of communications projects and those that require communications); mission changes and taskings; mobility and deployment of C4 systems and personnel; long-range infrastructure planning and prioritization; interoperability issues, the STEM; contracts and agreements affecting C4 systems, and manpower, personnel and training associated with C4 systems. This is a planning forum. It is not a requirements board, who's sole purpose is the validation and prioritization of user requirements. Requirements result from planning.

3.2. Role of the STEM-B. The STEM-B is a key individual in the base C4 systems review.. The STEM-B:

3.2.1. Serves the wing commander and CSO as a C4 systems technical consultant and assists the CSO in C4 system configuration control.

3.2.2. Develops, updates, and maintains the base C4 Systems Blueprint, which includes the C4 system baseline infrastructure.

3.2.3. Serves the user, C4 planner, and CSO by helping define user mission needs (when required) and, when those needs dictate a material solution, defines and clarifies user requirements.

3.2.4. Plans, designs, costs, and reviews technical solutions to user requirements, when the CSO requests assistance.

3.2.5. Plans and integrates base C4 requirements and works to limit or eliminate duplication.

3.2.6. Reviews C4 systems for architectural compliance.

3.2.7. Integrates C4 systems and proposes implementation schedules.

3.2.8. Reviews Military Construction Program plans, the base comprehensive plan, and C4 systems specifications for C4 systems impact.

3.3. Reviewing C4 Systems. The C4 systems planner and STEM-B must participate in all reviews of installed assets, approved programs, and planned requirements. Accomplish these actions during the base C4 systems reviews to save time and money.

3.3.1. Make sure proposed technical solutions are consistent with DoD, Air Force, and MAJCOM C4 systems architectures and the C4 Systems Blueprint.

3.3.2. When checking integration efforts, personnel should take full account of their impact on the infrastructure and detail the methods and means of implementation. Include system description, points of contact, actual or forecasted implementation dates, hardware and software requirements, funding, and classification of information processed in this review.

3.3.3. Seek help from the Systems Telecommunications Engineering Manager-Command Level (STEM-C) to resolve C4 systems integration problems according to AFI 33-102.

3.3.4. Use the base C4 Systems Blueprint to provide broad system configuration and design that is consistent with unique characteristics of the base and the operational environment.

3.4. Reviewing Information Protection. Address systems information protection (security) issues at all stages of C4 system development. These issues include operations security (OPSEC), communications security (COMSEC), computer security (COMPUSEC), physical security, Emission Security (EMSEC), and so forth. See DoD 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs (MDAPS) and Major Automated Information System (MAIS) Acquisition Programs*; AFPD 33-2, *C4 Systems Security* (will convert to *Information Protection),* and its associated instructions; and Military Standard (MIL-STD) 1785, *Systems Security Engineering Program Management*. Review this regulatory guidance early in the project to avoid excess costs and delays.

3.4. (AFMC) Air Force Systems Security Instruction 5101, *Computer Security in the Acquisition System*, and Air Force Systems Security Memorandum 5010, *Computer Security in the Acquisition Life Cycle*, are two of the primary associated publications to Air Force Policy Directive 33-2, *C4 Systems Security*. Ensure C4 systems security requirements are addressed and approved by the designated approving authority (DAA) at all stages of the C4 system development. The DAA is the accreditation authority for C4 systems. For large system acquisitions recommend the automated Air Force Acquisition Model (AFAM), which identifies all security requirements throughout the system life cycle, be utilized. Contact ASC/CYM, Bldg 17, 2060 Monahan Way, Wright-Patterson AFB OH 45433-5745 for information on AFAM (check for electronic availability on your local area network). Systems security for smaller base-level systems is the responsibility of the local base C4 systems security office.

3.5. Procedures for Successful Systems Integration. Many factors ensure the successful integration of a C4 system into the base infrastructure during the project planning process. See **Attachment 5** for a list of some of these factors. While not all these factors apply to every C4 system, the base C4 systems planner as well as project engineers and program and project managers must review them for applicability.

3.5.1. To Support Users the C4 Systems Planner:

3.5.1.1. Establishes continuity procedures for C4 systems planning, integrating, and developing requirements.

3.5.1.2. Establishes a reference library of, or has immediate access to, pertinent DoD, USAF, MAJCOM, and other agency C4 policy and procedures documents, architectures, applicable MAPs, FAPs, MSPs, the C4I Master Plan, MAJCOM templates, base C4 Systems Blueprints, base comprehensive plans, and base operational plans to properly plan future C4 systems.

3.5.1.3. Makes sure C4 system users are aware of systems on which they are dependent.

3.5.2. To keep planning documents up-to-date, the C4 systems planner:

3.5.2.1. Makes sure that proposed technical solutions integrate with current C4 systems architectures and the base C4 Systems Blueprint.

3.5.2.2. Establishes and maintains CSIR files containing historical documents according to AFI 21-404, *Developing and Maintaining Command, Control, Communications, and Computer Systems Installation Records*.

3.5.2.3. Sends annotated as-installed drawings to the appropriate EI activity for update after accepting and certifying the project action according to AFI 21-404.

3.5.2.4. Sets suspense and status of all drawings sent for update.

3.5.2.5. Annually reviews CSIRs for accuracy and sends them for update after completion.

3.6. Integrating Electronic Records Systems. Use AFPD 37-1, *Air Force Information Management,* and associated series documents to approve and maintain an electronic records capability. Maintain minimum requirements for security and record identification. Organizations notify the appropriate records management activity if they plan to develop, test, or operate electronic records systems. Send a copy of the requirement document or MNS through the MAJCOM records manager (normally in the Information Management office) to HQ USAF/SCMI.

3.7. Technical Solutions and Cost Estimates. Develop technical solutions according to AFI 33-103. When you can't develop a solution locally, send it to the STEM-B for assistance. The STEM-B helps develop a technical solution and cost estimate if the requirement is not currently in the base C4 Systems Blueprint. The STEM-B considers architecture, integration, interoperability, mission capability, life-cycle costs, and safety, as well as the items in **3.7.1.** through **3.7.4.**. The STEM provides the supporting CSO the technical solution and cost estimate within 30 days of receipt. Before the CSO gives the requester the technical solution, the C4 systems planner must make sure the solution is interoperable (where interoperability is part of the requirement), it meets the users stated need, the costs associated with the solution are comprehensive and accurate, and the impact of the solution on the current and future architecture is known. The requester must approve or disapprove the technical solution and notify the CSO. The requester also advises the CSO of fund's availability, as well as decisions to delay or cancel implementation. The CSO keeps the STEM-B apprised.

3.7.1. COMSEC/COMPUSEC. The Cryptologic Management Directorate (SA-ALC/LT), Kelly Air Force Base, Texas, helps determine security requirements or COMSEC equipment capabilities when they assist with the technical solution. The CSO or servicing STEM sends the proposed technical solution to the Logistics Management Division (SA-ALC/LTM) for evaluation when COMSEC equipment is a requirement. If they recommend COMSEC equipment, the user must update Allowance Standard 658, which authorizes COMSEC equipment. This occurs after requirement approval and may occur before funding. Once the allowance is changed, the user submits an AF Form 601, **Equipment Action Request**, according to AFMAN 23-110V2, Part 13, Chapter 8, *Equipment Management*to order the equipment. The user must contact the base COMSEC accountant to set up a requirement for any keying material for the equipment.

3.7.2. Video Teleconference (VTC) and Video Teletraining (VTT) Equipment. See AFI 33-117, *Visual Information (VI) Management,* and the VTC Implementers Guide, when processing requirements, developing technical solutions and implementing VTC and VTT requirements.

3.7.3. Using Excess Automatic Data Processing Equipment. The C4 systems planner works with the automatic data processing (ADP) equipment control officer (ECO) and the requester to determine whether they can use available excess ADPE hardware and software in support of the technical solution. Consider alternatives such as computer time-sharing services (either commercial or within the Government) to lower life-cycle costs rather than acquiring and operating an in-house data processing system. See AFI 33-112 for more information.

3.7.4. Installation and Maintenance of Equipment . C4 systems or equipment installations or modifications must comply with established architectures. Determine what resources are available for installation and maintenance of equipment. Include unit, EI personnel, or contract installation, and determine the most cost-effective organic or contract maintenance method. When local capabilities are insufficient, contact the respective STEM-B for a technical solution and cost estimate.

3.7.5. Logistics Support. Consider what logistics support the system needs and coordinate with appropriate unit and base-level agencies for: maintenance planning; supply support; technical data; manpower; facilities; packaging, handling, storage and transportation; computer resource support; and design interface and compatibility, according to AFI 21-116, *Maintenance Management of Communications-Electronics.*

3.8. Base Civil Engineer (BCE) Support and Coordination. Base C4 planners work closely with the base civil engineer to get the BCE support needed to install and sustain C4 systems. They also work with BCE to make sure facilities have the required C4 capabilities. See the Air Force 32-series publications, as listed in **Attachment 1**, for additional guidance concerning BCE procedures. C4 systems planning with BCE includes the following:

3.8.1. Environmental Impacts. Identify real or suspected environmental impacts such as asbestos, hazardous waste sites, protected wetlands, historic buildings or sites and endangered species habitats, early in the technical solution development process. Environmental concerns may cause extensive project implementation delays.

3.8.2. Military Construction Program (MCP) and Minor Construction Requirements. Design and construct new buildings and major renovations to include wiring and cable support, and heating, air conditioning, and electrical power needed for C4 systems. Make sure BCE reviews HQ USAF/LEE Engineering Technical Letter 87-9 regarding prewiring of military construction projects. Include additional requirements in a project support agreement (PSA). ***Note: A single MCP project may include more than one PSA requirement.***

3.8.2.1. The C4 planner makes sure the appropriate communications activities attend pre-project definition conferences, project reviews, provide design comments, and participate in military construction (MILCON) acceptance inspections See AFI 32-1021, *Planning and Programming of Facility Construction Projects*.

3.8.2.2. The C4 planner analyzes MCP and minor construction projects for their impact on the base C4 infrastructure and its ability to support the construction project. Make sure communications requirements are submitted and included in the project.

3.8.2.3. Contact the STEM-B to meet technical parameters for MCP projects. The STEM-B helps define requirements and provides additional technical data to give the user a usable facility.

3.8.3. BCE Work Orders. C4 project managers help users to develop and process work orders for an approved and funded project. Coordinate work orders with the building custodian and with the

assigned work center project coordinator. Most work orders require coordination with the base environmental office and the fire department.

3.8.4. Digging Permits . AF Forms 103 are processed by plans and implementation flight personnel . Activities that perform work that may disrupt aircraft or vehicular traffic flow, base utility services (including communications), protection provided by intrusion detection alarm systems, or routine activities of the installation, submit forms according to AFI 32-1031, *Operations Management.* Use CSIRs to certify the location of cables, ducts, etc., when processing requests and supplement them with the technical expertise of systems and support flight personnel. Additionally, plans and implementation personnel should assist C4 installation personnel with AF Form 103 preparation and processing.

3.8.5. Real Property . The base acquires any real property furnished by the C4 systems installation activity. Examples of real property include antenna support towers, equipment shelters, fences, and so forth. Prepare a DD Form 1354, **Transfer and Acceptance of Military Real Property**, according to AFI 32-1023, *Design and Construction Standards and Execution of Facility Construction Projects*, before accepting or certifying an installation.

3.8.6. Drawings. The BCE provides "as-installed" building drawings for C4 systems records. Conversely, the CSIR manager provides CSIR drawings to make sure the base comprehensive plan reflects installed C4 systems.

3.8.7. Comprehensive Plan. The comprehensive plan, prepared by the base civil engineer, is the result of an analysis of the current, short- and long-range development potential of an installation. See AFI 32-7062, *Air Force Comprehensive Planning*, for a detailed description of the contents of the plan, as well as the comprehensive planning process. The STEM-B and C4 planner review relevant portions of the comprehensive plan and assist with the comprehensive planning process where required to make sure of the appropriate C4 infrastructure.

3.9. Funding and Production Planning. See **Attachment 4** on planning "how, where, and when" to get funds and setting a production schedule to implement the requirement.

Chapter 4

C4 SYSTEMS IMPLEMENTATION

4.1. Program Management Concepts. Program management occurs at all levels of command. The objectives of program management are to provide the user with those C4 systems required to satisfy the documented requirement within cost and schedule timelines. Program management activities include:

4.1.1. Measurement-- Collect metrics.

4.1.1.6. (Added-AFMC) Work with C4 users and oversight offices to establish a clear program charter.

4.1.1.7. (Added-AFMC) Ensure that C4 requirements are appropriately documented and validated.

4.1.1.8. (Added-AFMC) Ensure that selected system solutions are appropriately integrated into the larger system environments of the local organization, base, MAJCOM, and Department of Defense.

4.1.1.9. (Added-AFMC) Ensure that system acquisition and development are consistent with relevant policy, instructions, and guidance with waivers and variations communicated to all affected parties.

4.1.2. Estimation--Determine the tasks, resources, budget, and schedule.

4.1.3. Risk Analysis-- Identify, assess, and prioritize risks.

4.1.4. Scheduling-- Develop timelines and assign people and resources.

4.1.5. Tracking and Control-- Monitor the schedule and take corrective action if the program is not on schedule or is over budget.

4.2. Program Management Responsibilities. Base level projects are often the result of program management at many levels of command. **Attachment 8** lists project management tasks. Program management requires interaction among many support activities as identified in the C4 systems directive (CSD), the C4 systems programming plan (CSPP) (**Attachment 6**), and the CSPP support plans (**Attachment 7**). Program management begins when an implementing agency receives a program management directive (PMD) or an approved and funded C4 systems requirements document and ends with the transfer of equipment and software to the user or O&M activity (**Attachment 9**).

4.2.1. Implementing Activity

4.2.1.1. The implementing activity assumes program management responsibility when it receives an approved and funded directive for a program. Their tasks may include:

4.2.1.1.1. Appoint a single program manager (PM) for each program, and give the PM the authority to approve the CSPP and CSPP support plans.

4.2.1.1.2. Engineer, design, install, test, remove, or relocate C4 systems.

4.2.1.1.3. Provide hardware and software items and any test equipment and tools needed for installation and support that are not available to the O&M activity.

4.2.1.1.4. Install modification kits, if available, at the time of equipment installation.

4.2.1.1.5. Manage, control, and direct software development.

4.2.1.1.6. Review civil engineering design data, including changes, to see how they affect the program and make sure design drawings support the C4 system project.

4.2.1.2. Program Manager Responsibilities . With the aid, advice, and coordination of requiring, participating, and supporting activities, the PM:

4.2.1.2.1. Makes sure the contract administration office uses standard installation contracts and provides instructions for transferring accountability of government-furnished equipment (GFE) and contractor-furnished equipment (CFE) when a contractor installs the system.

4.2.1.2.2. Coordinates with the appropriate STEM-B when the requirement transitions into the implementation phase.

4.2.1.2.3. Determines the sensitivity, criticality, and security classification of the information processed by the C4 system before developing the CSPP.

4.2.1.2.4. Develops, coordinates, and distributes the CSPP and related support plans.

4.2.1.2.5. Determines and tracks program costs and resolves funding problems.

4.2.1.2.6. Notifies the requiring CSO and user if costs will exceed the original cost estimate by 20 percent or more.

4.2.1.2.7. Ensures preparation of PSAs according to **Attachment 6**.

4.2.1.2.8. Examines the feasibility of using organic, contractor, or a combination of both resources, to engineer or install the C4 system.

4.2.1.2.9. Assigns responsibility to obtain host nation approval, electrical safety certification, and connection approval.

4.2.1.2.10. Coordinates with the acquisition agency to make sure the method of acquiring an item, such as COMSEC equipment, gets the system on-line by the time the user needs it.

4.2.1.2.11. Defines logistics support needs.

4.2.1.2.12. Tells the implementing activity what resources it needs.

4.2.1.2.13. (Added-AFMC) Works with the center education and training flight/branch to develop a system training plan to include initial and follow-on training activities/responsibilities.

4.2.2. Base-Level Project Manager (normally base level C4 systems planning and implementation personnel):

4.2.2.1. Makes sure all affected agencies coordinate on C4 projects.

4.2.2.2. Coordinates with the STEM-B to make sure the requirement solution complies with the current architecture.

4.2.2.3. Notifies 38th Engineering Installation Squadron (38 EIS/DRP) of implementation funding, when they are the implementing activity.

4.2.2.4. Ensures the transfer of equipment and software accountability to the using or O&M activity.

4.2.2.5. Notifies the BCE of real property structures according to AFI 32-9005, *Real Property Accountability and Reporting*.

4.2.2.6. Requests radio frequency support according to AFI 33-118, *Radio Frequency Spectrum Management*.

4.2.2.7. Satisfies logistics support needs before the C4 system installation according to AFI 21-116.

4.2.2.8. Makes sure the support construction is technically adequate and compatible with the project.

4.2.2.9. Monitors and coordinates program management tasks assigned to their activity.

4.2.2.10. Keeps the PM advised on the status of projects per the implementing directive.

4.2.2.11. Reports any changes to the PM that could impact project development or implementation.

4.2.2.12. Participates in program management meetings when requested by the PM.

4.2.2.13. Develops support plans as required by the CSPP and when directed by the PM.

4.2.2.14. Makes sure equipment authorizations are added to the appropriate table of allowance and equipment management system (see AFMAN 23-110V2 and AFI 33-112).

4.2.3. Requiring Activity (User):

4.2.3.1. Develops and coordinates the CSRD or MNS (see AFI 33-103 or AFI 10-601).

4.2.3.2. Identifies changes to the original requirement to the CSO, and if those changes result in a cost increase of 20 percent or more, determines if implementation should proceed.

4.2.3.3. Arranges for disposal of removed equipment.

4.2.3.4. Participates in system testing and certification.

4.2.3.5. Provides transportation for DoD installation personnel using General Services Administration (GSA) or commercial rental vehicles when host base vehicles are not available.

4.2.3.6. Adds equipment to table of allowance and equipment management systems according to AFMAN 23-110V2.

4.2.4. Program Action Officer

4.2.4.1. Monitors and coordinates program management tasks assigned to their activity.

4.2.4.2. Keeps the PM advised on the status of projects per the implementing directive.

4.2.4.3. Reports any changes to the PM that could impact project development or implementation.

4.2.4.4. Participates in program management meetings when requested by the PM.

4.2.4.5. Develops support plans as required by the CSPP and when directed by the PM.

4.2.5. HQ Air Force Materiel Command (HQ AFMC) Logistics Centers, HQ 38th Engineering Installation Wing (EIW), and HQ Standard Systems Group (SSG):

4.2.5.1. Coordinating the Installation . In coordination with the implementing command or activity, 38 EIW plans what EI resources the installation requires, based on specific program tasks

assigned to AFMC. The 38 EIW draws up a formal memorandum between the PM and the appropriate AFMC activity agreeing to the tasks, such as preliminary C4 systems engineering help, installation engineering, and on-site installation. SSG plans similarly for projects they implement. In the memorandum, outline AFMC tasks by system or equipment, system location, and installation schedule. Review the memorandum annually and amend it at any time mutually acceptable by affected parties.

4.2.5.2. AFMC (38 EIW and SSG):

4.2.5.2.1. Helps the implementing command or activity to identify what C4 support it needs.

4.2.5.2.2. Provides on-site support to the implementing command or activity when a site activation or alteration task force (SATAF) helps to bed down a weapons system.

4.2.5.2.3. Helps with the developmental testing and evaluation (DT&E) and operational test and evaluation (OT&E) of the C4 system in a realistic environment according to AFI 99-101, *Developmental Test and Evaluation,* and AFI 99-102, *Operational Test and Evaluation.*

4.2.5.2.4. Carries out the responsibilities assigned to it in the PMD, CSPP, and other documents.

4.2.5.2.5. Acquires and provides equipment items.

4.2.5.2.6. Ships equipment in complete condition per the time compliance technical order (TCTO).

4.2.5.2.7. Makes sure initial and life-cycle logistics support is available to the using and O&M activities.

4.2.5.2.8. Advises the PM and supporting command concerning equipment delivery.

4.2.6. AFMC, Cryptologic Management Directorate, Logistics Management Division, Kelly Air Force Base, Texas (SA-ALC/LTM):

4.2.6.1. Programs for and provides COMSEC equipment and material as requested by the using Command Equipment Management Office.

4.2.6.1. (AFMC) Coordinate requirements for automated information systems/programs that utilize resources provided by the Defense Information System Agency with that agency.

4.2.6.2. Carries out the responsibilities assigned in the PMD, CSPP, and other documents.

4.2.6.3. Provides the PM with needed information and advice about the requirement.

4.2.6.4. Serves as the executive agent and Inventory Control Point for COMSEC equipment.

4.2.6.5. Reviews COMSEC requirements for technical, architectural, acquisition strategy, logistics support, costing, and doctrinal adequacy, from a COMSEC compatibility viewpoint.

4.2.6.6. Procures, stocks, stores, issues, and performs depot level maintenance for COMSEC equipment.

4.2.7. Host Base:

4.2.7.1. Before Installations

4.2.7.1.1. Provides support as defined in the PMD, CSPP, PSA and other documents. This may include documents prepared by other than Air Force activities, but serve the same purpose.

4.2.7.1.2. Provides the PM with needed information, definition, and advice about the requirement.

4.2.7.1.3. Coordinates and prepares responses for all documents that assign base-level functions.

4.2.7.1.4. Confirms support actions.

4.2.7.1.5. Holds project review meetings with the C4 systems planner, the functional area project monitor, the O&M activities, civil engineer, project engineer, and the STEM-B.

4.2.7.1.6. Discusses base projects with individual C4 users and the O&M systems technicians.

4.2.7.1.7. Involves the C4 user, the O&M activity, and civil engineer in site surveys.

4.2.7.1.8. Submits requests for engineering changes on an AF Form 1146, **Engineering Change Request/Authorization**, to the servicing EI activity.

4.2.7.1.9. Provides the implementing command with preliminary and final civil engineering design data and reproducible copies of as-built drawings of the construction.

4.2.7.1.10. Provides secure dry storage for project materials per AFMAN 23-110V2.

4.2.7.1.11. Provides utilities, serviceable cable ducts, vaults, and manholes as needed.

4.2.7.1.12. Manages initial spare support list assets and documentation per AFMAN 23-110V2.

4.2.7.1.13. Constructs, maintains, and repairs facilities and equipment as stated in the CSPP, support plans, and the PSA.

4.2.7.1.14. Visits the project warehouse location and verifies receipt of materiel.

4.2.7.1.15. Establishes a tracking system for PSA tasking and verifies task completion before notifying the PM.

4.2.7.1.16. Monitors the status of outstanding BCE work orders.

4.2.7.1.17. Maintains current continuity procedures.

4.2.7.2. During Installations

4.2.7.2.1. Assists installation personnel with the preparation and processing of the BCE Work Clearance Requests.

4.2.7.2.2. Helps the installation team to obtain local purchase and contractual funds from the implementing command.

4.2.7.2.3. Supports the project OT&E according to AFI 99-102.

4.2.7.2.4. Provides secure storage, corrosion control, and a vehicle parking area to safeguard installation tools and equipment.

4.2.7.2.5. Gives installation personnel a supply account number for ordering replacement items and building up stock levels of operating supplies.

4.2.7.2.6. Supplies vehicles and petroleum, oil, and lubricants (POL) as required by installation personnel. If host base resources are not available, the user provides GSA or commercial rental vehicles. Costs are borne by the host installation, unless otherwise stated. Review contracts to determine the extent of support to contractor personnel.

4.2.7.2.7. Provides housing and messing facilities.

4.2.7.2.8. Provides base administrative, engineering, maintenance, and visual information assistance as required in support of the project.

4.2.7.2.9. Packs, crates, transports, and ships project materiel.

4.2.7.3. After Installations

4.2.7.3.1. Disposes of excess project materiel.

4.2.7.3.2. Completes and distributes all DD Form 250, **Material Inspection and Receiving Report**, and AF Form 1261, **Command, Control, Communications and Computer Systems Acceptance Certificate**.

4.2.7.3.3. Make sure "as-installed" CSIRs are sent to the C4 Engineering Data Service Center (EDSC), according to AFI 21-404.

4.3. Securing an Incomplete Installation. If an installation team has to leave before the installation is complete, the installing activity and the host base prepare a letter of custodial agreement. In this letter the host base agrees to secure the C4 systems equipment and installation team tools and equipment left on-site. The letter also states why the team is leaving and gives an estimated date when work will resume.

4.4. Control of the Installation Team. The PM controls the schedule of the installation team. Normally the team leaves after system acceptance, but only the PM may direct the team to leave before the installation is complete.

Chapter 5

INSPECTING, ACCEPTING, AND REMOVING C4 SYSTEMS

5.1. Acceptance Inspection. This inspection determines if equipment and software meet the technical and performance standards identified in the project instructions or contractual documents.

5.1.1. The Acceptance Inspection . The inspection consists of a review of equipment and software test results, a physical review of the installation and a check and verification of associated documents.

5.1.2. When to Conduct the Inspection and Who Participates . Conduct the acceptance inspection immediately after the equipment and software tests. Representatives of the user, O&M, and the EI activities, as appropriate, perform the inspection. Other personnel may represent the implementing command, the requiring command, the C4 systems O&M activity, BCE, and the contractor. The system's O&M activity leads the inspection team. The PM tailors the inspection to the particular system tested. The inspection team decides what to review, in what order, and how thorough to make each part of the inspection.

5.2. Inspection Documents. The implementing activity provides appropriate documents such as the AF Form 1261, DD Form 250, as-installed drawings, equipment accountability documents, cable distribution sheets, system test logs, installation instructions and design standards, equipment performance records, test data sheets, equipment and software test records, X-radiation certificates and radio frequency radiation profiles when needed, contractual documents, and host nation and connection approval documents, if necessary

5.3. System Tests. The implementing command or activity appoints a test director. The O&M activity appoints an associate test director. Representatives of the installing and O&M activities, the requiring command, and the acquisition command (when appropriate) conduct the tests. If a contractor installs the system, contractor representatives and a base procurement office representative take part in the tests according to contract terms.

5.4. Installation Exceptions. Installation exceptions are defects that prevent the system from meeting the inspection criteria. They include faulty installation, software errors, equipment failures, unsuccessful tests, and other faults as determined by the inspection team.

5.4.1. Major Exceptions. Some exceptions keep the system from meeting the specified operational requirements. These are termed major exceptions. After finding such a fault, the inspection team continues the inspection as far as possible, then suspends the inspection, documents the exceptions and does not accept the system for use.

5.4.1.1. The inspection team formally notifies the responsible activity that it must correct the problems. The activity must make the correction as soon as possible.

5.4.1.2. The inspection team resumes the inspection after correction of all major exceptions.

5.4.2. Minor Exceptions. These exceptions do not keep the system from meeting operational requirements but keep it from meeting all inspection criteria. The user may accept the system if the system test and inspection identify only minor exceptions.

5.4.2.1. The inspection team lists the minor exceptions on AF Form 1261. The inspection team determines the activity responsible for correcting the fault and forecasts the date of correction.

5.4.2.2. After correction of each minor exception, the O&M activity releases the responsible activity and annotates the AF Form 1261 to reflect the date corrected. The base CSO and the C4 systems user do not certify the system until all minor exceptions are cleared. The C4 planner monitors the correction of minor exceptions.

5.5. Using C4 Systems Before Acceptance. Sometimes it is necessary to use systems before complete support is available or before responsible activities have cleared minor exceptions. In these cases, the PM, O&M activity, and the user make a risk assessment. Only the user can accept responsibility for using the system before all minor exceptions are cleared.

5.6. C4 Systems Acceptance. The installing activity and the host base C4 systems planner have joint responsibility for completing AF Form 1261.

5.6.1. Filling Out AF Form 1261 . Once the base CSO and the user have indicated certification in Block 11 of the form, the C4 system is operational. Block 10 lists the functions that have accepted the installation.

5.6.1.1. If the system is contractor-installed, include a copy of DD Form 250 as an attachment to AF Form 1261. If the contractor fails to perform to contract specifications, do not sign DD Form 250 until advised by the base procurement officer (the using activity may be entitled to liquidated damages).

5.6.1.2. The installation team may leave after completion of Blocks 10A-D and after transfer of all C4 systems equipment, software, and real property.

5.6.1.3. The C4 systems planner obtains the additional signatures required, sends a copy of the completed form to the PM, and keeps the original document and attachments in the CSIR files for life-cycle documentation. See **Attachment 9** for additional instructions for completing the AF Form 1261. Also coordinate project completion with the STEM-B for the C4 Systems Blueprint update.

5.7. Removing C4 Systems. Certify satisfactory removal of a C4 system after disposing of the system or equipment and after completing AF Form 1261. Coordinate the removal action with the STEM-B and make sure all planning documents (including the C4 Systems Blueprint), CSIRs, and BCE drawings reflect the removal of the C4 system.

Chapter 6

MANAGING C4 SYSTEMS RESOURCES

6.1. Financial Management. Procedures provided in this section help the C4 systems resource manager to understand accounting terminology, budget management, billing procedures, voucher preparation, establishment of obligations for anticipated expenses, and invoice processing.

6.1.1. The C4 Systems Financial Manager . The financial manager attends the base financial working group meeting and briefs the group on the status of C4 funds and expenditures. The manager also assists the CSO and participates in the base financial management board. See AFPD 65-6, *Budget,* and associated AFIs for more information. See specific responsibilities and tasks detailed below.

6.1.1.1. Budget Development and Formulation . The financial manager must:

6.1.1.1.1. Request, interpret and consolidate inputs from various activities.

6.1.1.1.2. Receive and evaluate budget calls.

6.1.1.1.3. Brief the cost centers and request their input.

6.1.1.1.4. Prepare a draft budget and coordinate it with the cost centers and unit staff

6.1.1.1.5. Finalize and send the draft budget according to the servicing budget office's guidance and procedures.

6.1.1.2. Budget Execution . The financial manager:

6.1.1.2.1. Manages the obligation, expenditure, and reprogramming of current year program.

6.1.1.2.2. Receives, analyzes, and recommends distribution of the annual and quarterly budget authority; distributes and posts the spending targets.

6.1.1.2.3. Requests funds reprogramming.

6.1.1.2.4. Reconciles entries against management reports.

6.1.1.2.5. Manages funds, balances the operating budget ledger, and verifies it to the funding authority. See AFPD 65-6 and associated AFIs for more information.

6.1.1.3. Billing Accounting . The financial manager manages and prepares miscellaneous commitment, obligation, and expense documents and sends them to the servicing financial activity; requests and sends the estimate for monthly expenditures; and makes sure contract or purchase orders are established and deobligates residual funds.

6.1.1.4. Telephone Bills . The financial manager:

6.1.1.4.1. Receives and date stamps the bill or invoice.

6.1.1.4.2. Separates the toll and other administrative telephone bills.

6.1.1.4.3. Sends bills to the applicable activity for verification according to local verification procedures.

6.1.1.4.4. Evaluates verification of services and charges, prepares the certification document, and sends it to the servicing financial activity. See AFI 33-111, *Telephone Systems Management,* for more information about verification procedures.

6.1.1.5. Preparing Reimbursement Documentation: The financial manager reviews support documentation and prepares the service billing document for services provided to the contractor. The financial advisor then sends the billing information to the servicing financial activity for uncommon customer services and nonbeneficial tenants.

See AFR 177-101, *General Accounting and Finance Systems at Base Level* for more information.

6.1.1.6. Audit Reports. The base C4 systems plans and implementation flight is the C4 focal point for auditor visits and audit reports. Use audits to improve programs, make financial reporting more accurate, and promote economy, efficiency, and effectiveness throughout the Air Force. Actions on recommendations help the DoD work better at less cost. Flight personnel make sure Government Accounting Office, DoD Inspector General, Air Force Audit Agency, and other auditors are provided appropriate access to personnel, records, or facilities needed to meet their announced audit objectives. Follow procedures in the 65-series publications listed in **Attachment 1** to support auditors, process, and follow up on reports.

6.1.1.7. Financial Management Practices. Financial management practices follow AFPD

65-6 and associated AFIs, MAJCOM publications, and local directives. The following additional practices are also helpful.

6.1.1.7.1. Establish continuity procedures.

6.1.1.7.2. Compare the operating budget ledger to the funding document to make sure the quarterly and annual authorizations are accurate.

6.1.1.7.3. Periodically give the CSO the status of funds and the financial impact of changes in operational or administrative responsibilities.

6.1.1.7.4. Make sure invoices and bills are date stamped on receipt and sent to the focal point for verification.

6.1.1.7.5. Send payments to the servicing financial activity in enough time to meet the due date in the tariff or contract.

6.1.1.7.6. Resolve discrepancies between leased services billing and the pertinent C4 systems documentation in a timely fashion.

6.1.1.7.7. Separate the duties of certification, verification, and payment of leased services. Use DD Form 250 to certify services or equipment received by the C4 user. Complete the form within 3 days of receipt to allow the Government to take advantage of discounts offered for early payment of accounts.

6.2. Agreements Management. The Base C4 systems planner is the C4 systems installation Functional Area Agreement Coordinator and installation receiver Support Agreements Coordinator. They develop, review, and process support agreements, according to AFI 25-201, *Support Agreeement Procedures*. There are several types of agreements. A DD Form 1144, **Support Agreement**, documents the support services a supplier provides a receiver and the reimbursement the receiver will pay to the supplier for the identified levels of support. Use a Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA) in place of the DD Form 1144, when it is necessary to document financial and support arrangements with US nongovernmental activities, nonmilitary agencies or individuals, or before publishing a Base Support Plan.

Functional areas also use MOAs or MOUs to document mutually agreed upon statements of fact, intentions, procedures, and policies for future actions.

6.2.1. Role of Wing Logistics Support. The primary office at base level that manages agreements is the wing logistics support activity, which functions as the installation supplier Support Agreement Coordinator (SAC). The C4 systems planner works with the SAC to provide C4 support when activities request it, and when the communications unit requires support. The C4 planner also processes support requests to make sure that C4 systems are installed, relocated or removed.

6.2.2. C4 Systems Planners Responsibilities . Process requests for support by reviewing existing agreements for applicability, determining responsibility within the unit, coordinating the impact on their operations, and drafting, staffing, and obtaining the approving official's signatures. Make sure all C4 agreements on file are current and review them for applicability. Draft, finalize, and get signatures for required changes.

6.3. Contract Management. The C4 systems plans and implementation flight is the technical focal point for all unit C4 systems contracts. They provide the unit commander with a single point of contact (POC) to manage C4 systems contracts effectively. Flight personnel maintain a list of all C4 systems contracts for which the unit has oversight responsibility. They make sure that accurate information is readily available to plan for and react to contracting situations. Overall, the base procurement office performs acquisition and contract management.

6.3.1. Contract Management Guidance. Use understandable terms when completing the required documents. Only duly appointed procurement officers establish or interpret contracts, change terms, resolve questions, and obligate the Federal Government. As the C4 contract technical focal point, flight personnel:

6.3.1.1. Assist in managing C4 contracts.

6.3.1.2. Help prepare quality assurance surveillance plans to evaluate contractor performance.

6.3.1.3. Help prepare AF Form 9, **Request for Purchase.**

6.3.1.4. Review contract requirements documentation for completeness before sending them to the base contracting office.

6.3.1.5. Notify the base procurement officer of changes in quality assurance personnel and make sure that new quality assurance evaluators (QAE) receive training from the base procurement officer.

6.3.2. Contract Management Responsibilities . Manage C4 systems contract management efforts using AFI 63-501, *Air Force Acquisition Quality Program,* and AFMAN 64-108, *Service Contracts,* MAJCOM and local directives, and these guidelines:

6.3.2.1. Establish continuity procedures on contract management.

6.3.2.2. Establish a focal point for C4 systems contracts.

6.3.2.3. Verify that the contract package has all required documents.

6.3.2.4. Confirm that sufficiently detailed written procedures cover all but unusual circumstances.

6.3.2.5. Document required QAE training.

6.3.2.6. Document contractor-performed QAE.

6.3.2.7. Develop a QAE file for each contract.

6.3.3. QAE Responsibilities. Assign a qualified QAE to make sure the contractor performs as required by contract terms and the Government pays only for those services the contractor actually performed.

6.3.3.1. The unit may appoint more than one QAE for a specific contract with one individual as the lead QAE. Place the lead QAE in the area that oversees daily operations of the contracted services.

6.3.3.2. Functional supervisors must make sure the assigned QAE performs their duties. AFMAN 64-108 governs the responsibilities and duties of the QAE, the performance work statement, and the quality assurance surveillance plan.

6.3.3.3. The QAE objectively evaluates and documents contractor performance by performing inspections for assigned service contracts according to the quality assurance surveillance plans. The QAE notifies the administrative contracting officer and the functional area chief if a contractor's performance is unacceptable and prepares proper documentation for the QAE file.

6.4. Form Prescribed. This instruction prescribes AF Form 1261, **Command, Control, Communications and Computer Systems Acceptance Certificate** and AF Form 1146, **Engineering Change Request/Authorization**.

JOHN S. FAIRFIELD, Lt General, USAF
DCS/Communications and Information

Attachment 1

GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS

References

DoD 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs*

DoDI 4000.19, *Interservice and Intergovernmental Support*

AFPD 10-6, *Mission Needs and Operational Requirements*

AFPD 21-4, *Engineering Data*

AFPD 33-1, *Command, Control, Communications, and Computer (C4) Systems*

AFPD 33-2, *C4 Systems Security* (will convert to *Information Security)*

AFPD 37-1, *Air Force Information Management*

AFPD 65-6, *Budget*

AFI 10-201, *Status of Resources and Training System*

AFI 10-215, *Personnel Support for Contingency Operations (PERSCO)*

AFI 10-404, *Base Support Planning*

AFI 10-403, *Deployment Planning*

AFI 10-501, *Program Action Directives (PAD) and Programming Plans (PPLAN)*

AFI 10-601, *Mission Needs and Operational Requirements Guidance and Procedures*

AFI 16-301, *US Air Force Priority System for Resources Management*

AFI 21-116, *Maintenance Management of Communications-Electronics*

AFI 21-404, *Developing and Maintaining Command, Control, Communications, and Computer Systems Installation Records*

AFI 25-201, *Support Agreeement Procedures*

AFI 32-1021, *Planning and Programming of Facility Construction Projects*

AFI 32-1023, *Design and Construction Standards and Execution of Facility Construction Projects*

AFI 32-1031, *Operations Management*

AFI 32-1032, *Planning and Programming Real Property Maintenance Projects Using Appropriated Funds (APF)*

AFI 32-1052, *Facility Asbestos Management*

AFI 32-7062, *Air Force Comprehensive Planning*

AFI 32-9005, *Real Property Accountability and Reporting*

AFI 33-102, *Command, Control, Communications, Computers, and Intelligence (C4I) Capabilities Planning Process*

AFI 33-103, *Requirements Development and Processing*

AFI 33-111, *Telephone Systems Management*

AFI 33-112, *Automatic Data Processing Equipment (ADPE) Management*

AFI 33-117, *Visual Information (VI) Management*

AFI 33-118, *Radio Frequency Spectrum Management*

AFI 37-138, *Records Disposition-Procedures and Responsibilities*

AFI 38-201, *Determining Manpower Requirements*

AFI 38-204, *Programming USAF Manpower*

AFI 63-501, *Air Force Acquisition Quality Program*

AFI 65-401, *Relations with the General Accounting Office*

AFI 65-402, *Relations with the Department of Defense, Office of the Assistant Inspector Generals for Auditing, Analysis and Follow-Up*

AFI 65-403, *Follow-Up on Internal Air Force Audit Reports*

AFI 65-601V1, *Budget Guidance and Procedures*

AFI 99-101, *Developmental Test and Evaluation*

AFI 99-102, *Operational Test and Evaluation*

AFMAN 10-401, *Operation Plan and Concept Plan Development and Implementation*

AFMAN 23-110V2, *USAF Supply Manual*

AFMAN 33-125, *Technical Reference Codes*

AFMAN 37-139, *Records Disposition Schedule*

AFMAN 64-108, *Service Contracts*

AFR 177-101, *General Accounting and Finance Systems at Base Level*

MIL-STD 1785, *Systems Security Engineering Program Management*

DISAC 310-130-1, *Submission of Telecommunications Service Requests*

OSHA 1926.58, Toxic Substance Control Act for PCBs-40 CFR 761 and the Clean Water and Clean Air Acts, CFR-40

OSHA 1910.1200, Resources Conservation and Recovery Act

Abbreviations and Acronyms

38 EIS—38th Engineering Installation Squadron

ACO—Administrative Contracting Officer

ADP—Automatic Data Processing

ADPE—Automatic Data Processing Equipment

AFCA—Air Force Communications Agency

AFEMS—Air Force Equipment Management System

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AIA—Air Intelligence Agency

AOR—Area of Responsibility

ASC—Allied Support Completion

BCE—Base Civil Engineer

BPAC—Budget Program Activity Code

BPID—Blueprint Phase Implementation Directive

BPPBS—Biennial Planning, Programming, and Budgeting System

BSP—Base Support Plan

BSPC—Base Support Plan Committee

C-Level—Category Level

C4—Command, Control, Communications and Computers

C4I—Command, Control, Communications, Computers, and Intelligence

CEMO—Command Equipment Management Office

CFE—Contractor-Furnished Equipment

CITS—Combat Information Transfer System

COMPUSEC—Computer Security

COMSEC—Communications Security

CONUS—Continental United States

COOP—Continuity of Operations

COTS—Commercial-Off-The-Shelf

CSD—C4 Systems Directive

CSIR—C4 Systems Installation Records

CSPP—C4 Systems Programming Plan

CWD—Chemical Warfare Defense

DOC—Designed Operational Capability

DoD—Department of Defense

DoDM—DoD Manual

DoDR—DoD Regulation

DRU—Direct Reporting Unit

DT&E—Developmental Testing and Evaluation

ECO—Equipment Control Officer

EDSC—Engineering Data Service Center

EEIC—Element of Expense Identification Code

EI—Engineering and Installation

FAP—Functional Area Plans

FOA—Field Operating Agency

GCCS—Global Command and Control System

GEOLOC—Geographic Location

GFE—Government-Furnished Equipment

GSA—General Services Administration

HQ 38 EIW—Headquarters 38th Engineering Installation Wing

HQ AFMC—Headquarters Air Force Materiel Command

HQ SSG—Headquarters Standard Systems Group

HQ USAF—Headquarters United States Air Force

IDO—Installation Deployment Officer

IMO—Installation Mobility Officer

IPMS—Information Processing Management System

ISD—Installation Start Date

JOPES—Joint Operation Planning and Execution System

LOGDET—Logistics Force Detail

LTOC—Lowest Total Overall Cost

MAIS—Major Automated Information System

MAJCOM—Major Command

MANFOR—Manpower Force Packaging System

MAP—Mission Area Plans

MEFPAK—Manpower and Equipment Force Packaging System

MCP—Military Construction Program

MDAPS—Major Defense Acquisition Programs

MILCON—Military Construction

MIL-STD—Military Standard

MNS—Mission Need Statement

MOA—Memorandum of Agreement

MRRR—Mobility Requirements Resource Roster

MOU—Memorandum of Understanding

MSP—Mission Support Plans

NAF—Numbered Air Force

NEXRAD—Next Generation Radar

OCR—Office of Collateral Responsibility

O&M—Operation and Maintenance

OPLAN—Operation Plan

OPR—Office of Primary Responsibility

OPSEC—Operations Security

OT&E—Operational Test and Evaluation

PAD—Program Action Directive

PAO—Program Action Officer

PCB —Polychlorinated Bi-Phenals

PCO—Procurement Contracting Officer

PEC—Program Element Code

PM—Program Manager

PMD—Program Management Directive

POC—Point of Contact

POL—Petroleum, Oils, and Lubricants

POM—Program Objective Memorandum

PPLAN—Programming Plan

PSA—Project Support Agreement

QAE—Quality Assurance Evaluator

RFS—Request for Service

RPIE—Real Property Installed Equipment

SAF—Secretary of the Air Force

SATAF—Site Activation or Alteration Task Force

SORTS—Status of Resources and Training System

SOW—Status of Resources and Training System

STEM—Systems Telecommunications Engineering Manager

STEM-B—Systems Telecommunications Engineering Manager-Base Level

STEM-C—Systems Telecommunications Engineering Manager-Command Level

STEM-J—Joint Systems Telecommunications Engineering Manager

STEM-TM—Systems Telecommunications Engineering Manager-Telecommunications Manager

TAFIM—Technical Architectural Framework for Information Management

TRC—Technical Reference Codes

TCTO—Time Compliance Technical Order

TPFDD—Time-Phased Force and Deployment Data

TPFDL—Time-Phased Force and Deployment List

TSR—Telecommunications Service Request

UDM—Unit Deployment Manager

UMD—Unit Manpower Document

UPMR—Unit Personnel Management Roster

UTC—Unit Type Code

VI—Visual Information

VTC—Video Teleconference

VTT—Video Teletraining

WMP—War and Mobilization Plan

USAF—United States Air Force

38 EIW—38th Engineering Installation Wing

Terms

Acceptance—Indicates that a facility or system meets technical and performance standards but may still have minor exceptions that do not keep the facility from meeting operational and security requirements.

Acceptance Inspection—The final inspection to determine if a facility or system meets the specified technical and performance standards. It is held immediately after facility and software testing, and is the basis for certifying and accepting the C4 system. The AF Form 1261 documents the results.

Architecture—1. A framework or structure that portrays relationships among all elements of the subject force, system or activity. 2. A description of all functional activities to be performed to achieve the desired mission, the system elements needed to perform the functions, and the designation of performance levels of those systems. An architecture also includes information on technologies, interfaces, and location of functionals and is considered an evolving description of an approach to achieving a desired mission. 3. The disciplined definition of the information technology infrastructure required by a business to attain its objectives and achieve a business vision. It is the structure given to information, applications, organizational and technological means-the groupings of components, their interrelationships, the

principles and guidelines governing their design and their evolution over time.

Architecture, Infrastructure—Identifies the top-level design of communications, processing, and operating system software. It describes the performance characteristics needed to meet data base and applications requirements. It provides a geographical distribution of components to locations. The infrastructure architecture is defined by the service provider for these capabilities. It includes processors, operating systems, service software, and standards profiles that include network diagrams showing communications links with bandwidth, processor locations, and capacities to include hardware builds versus schedule and costs.

Automatic Data Processing Equipment (ADPE) —Any equipment or interconnected system or subsystems of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by a federal agency, or under contract with a federal agency which requires the use of such equipment, or requires the performance of a service, or the furnishing of a product that is performed or produced making significant use of such equipment. Such term includes computers; ancillary equipment; software, firmware, and similar procedures; services including support services; and related resources.

Base Support Plan—The installation level plan to support unified and specified command wartime operations plans as well as MAJCOM supporting plans. It cuts across all functional support areas in a consolidated view of installation missions, requirements, capabilities, and limitations to plan for actions and resources reporting war or contingency operations, including deployment, post-deployment, and employment activities (as appropriate).

Base Support Plan Committee (BSPC)—A group, normally consisting of senior-level leaders, that the installation commander appoints to facilitate the development of the base support plan. The BSPC serves as the focal point for the plan development and reports to the commander on the status of base support plans. It integrates base-level requirements and functional support actions into an overview of base support activity.

Blueprint Phase Implementation Directive (BPID)—Document from the STEM that reflects a portion of a C4 Systems Blueprint, and authorizes and directs implementation. It may serve as the technical solution, cost estimate, and implementation directive.

Category Level (C-Level)—A six point scale showing the degree to which a unit meets standards within four measured resource areas of personnel, equipment and supplies on hand, equipment condition and training, and an overall unit assessment.

C4 System—An integrated system of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control across the range of military operations.). (Joint Publication (JP) 1-02, Dept of Defense Dictionary of Military and Associated Terms) It includes base visual information support systems.

C4 Systems Blueprint—Document which provides the engineering plan to modernize the base-level infrastructure with cost-effective, base-wide C4 capability to support digital transmission of voice, data, video, imagery, and telemetry needs. It documents the baseline, identifies a target base configuration to support present and future requirements, and provides a time-phased plan and estimated costs for logical transition. The C4 Systems Blueprint is sometimes referred to as the Base Blueprint or the Blueprint.

C4 Systems Directive (CSD)—A document developed and approved by the implementing command that identifies key decisions, assigns responsibilities, and authorizes specific resources and actions to

develop and implement a C4 system (See Attachment 6).

C4 Systems Officer (CSO)—Identifies the supporting C4 systems officer at all levels. At base-level, this is the commander of the communications unit responsible for carrying out base C4 systems responsibilities. At MAJCOM, and other activities responsible for larger quantities of C4 systems, it is the person designated by the commander as responsible for overall management of C4 systems budgeted and funded by the MAJCOM or activity. The CSO function uses the office symbol "SC" which is expanded to three and four digits to identify specific functional areas. CSOs are the accountable officer for all automatic data processing equipment in their inventory.

C4 Systems Programming Plan (CSPP)—The central plan that drives and controls the program management effort (See **Attachment 6**).

C4 Systems Requirement—This statement identifies a C4 systems mission shortfall or system need to the CSO. A C4 system requirement arises when an organization can not accomplish its current or new mission; can increase operational efficiency or cut operational costs by using advances in technologies; or can modernize an existing C4 system by applying modern technology to satisfy evolving C4 systems requirements, improve mission performance, and reduce current or future operation and support costs

C4I Systems Master Plan—A living document published by HQ USAF/SC, that outlines goals and objectives for the C4I capabilities to be acquired beyond the next POM and outlines nearer term objectives for the next POM. It describes the C4I support required during the employment of forces in response to the Air Force strategy of "Global Reach - Global Power."

Compatibility—The capability of two or more items or components of equipment or material to exist or function in the same system or environment without mutual interference, defined over some range of functions of interest.

Computer Security (COMPUSEC)—The protection resulting from all measures to deny unauthorized access and exploitation of friendly computer systems.

Designed Operational Capability (DOC) Statement—The document prepared by the parent MAJCOM that outlines each measured unit's DOC and contains the unit's identification, mission tasking narrative, mission specifics, and measurable resources. (See AFI 10-201)

Emission Security (EMSEC)— The protection resulting from all measures taken to deny unauthorized persons information of value which might be derived from intercept and analysis of compromising emanations from crypto-equipment, information systems, and telecommunications systems

Engineering Data Service Center (EDSC)—A central repository of engineering drawings and other engineering data. EDSCs receive, index, reproduce, store, distribute, and control data as authorized in AFPD 21-4, *Engineering Data,* and AFI 21-401, *Engineering Data Storage, Distribution, and Control*.

Infrastructure—1. In the C4I for the Warrior Concept, infrastructure refers to the C4I resources of the infosphere; the combination of physical resources that is global in scope, available to war fighters at all levels of command, provides access to all modes of communications and information processing services, and is operative at a prescribed level of capability at all time. 2. The common-user portion of the base-level C4 systems environment. It includes transmission, switching, processing, system-control and network management systems, equipment, and facilities that support the base. Examples include the base telephone switch and cable plant, base communications center, and local area networks.

Installation Deployment Officer (IDO)—The host unit officer who maintains base deployment

guidance and directs and coordinates base deployments under the direction of the installation commander. Also referred to as the Installation Mobility Officer.

Integration—1. The process of bringing together parts to make whole or complete. 2. The merging of the functional and technical characteristics of existing and planned C4 systems to ensure the resulting system is consistent with the Air Force C4 Systems Architecture (AFCSA). To be consistent, it must be interoperable and free of conflicts in purpose, schedule, and technology and must effectively and efficiently support the Air Force.

Interoperability—1. The condition achieved among C4 systems or equipment when information or services can be exchanged directly and satisfactorily between them and or their users. The degree of interoperability should be defined when referring to specific cases. 2. The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together. The condition achieved among C4 systems or items of C4 with the exchange of information or services directly and satisfactorily between them and/or their users. Define the degree of interoperability when referring to specific cases.

Life-Cycle Management—1. The management of a system or item, starting with the planning process and continuing through successive management processes and associated life cycle management phases and associated milestones, until a system is terminated. 2. A management process, applied throughout the life of an automated information system (AIS), that bases all programmatic decisions on the anticipated mission-related and economic benefits derived over the life of the AIS.

Local Area Network (LAN)—A telecommunications system, within a specified geographical area, designed to allow a number of independent devices to communicate with each other over a common transmission topology. LANs are usually restricted to relatively small geographical areas (i.e., rooms, buildings, or clusters of buildings) and utilize fairly high data rates. Depending on the implementation, these communications networks can provide internal interchange of voice, data, graphics, video, or other forms of electronic elements.

Logistics Assessment—An assessment done during program management to determine the availability of equipment and logistics support and to determine what actions will ensure full logistics support at program completion.

Logistics Force Detail (LOGDET)—A component of the Logistics Force Packaging Systems (LOGFOR) that provides equipment and materiel requirements and summarized transportation characteristics. The LOGFOR is a MEFPAK subsystem.

Logistics Support—The composite of all considerations necessary to assure the effective and economical support of a system throughout its programmed life cycle. Included are: supply support, maintenance planning, test and support equipment, transportation and handling, personnel and training, facilities, data and software.

Lowest Total Overall Cost (LTOC)—The lowest total cost to the Government for a system over its full life cycle, including the cost of development, procurement, operation, support, and disposal.

Manpower Forces Packaging System (MANFOR)—A subsystem of the Manpower and Equipment Force Packaging System (MEFPAK). It provides the title of the unit or force element and its unique Joint Chiefs of Staff unit type code, the capability statement that contains the definition of unit capability, and the manpower detail by function, grade (officers only), and Air Force specialty code required to meet the defined capability.

Network—1. An organization of stations capable of intercommunication but not necessarily on the same channel. 2. Two or more interrelated circuits. 3. A combination of switches, terminals, and circuits that serves a given purpose. 4. A combination of terminals and circuits in which transmission facilities interconnect the user stations directly (i.e., there are no switching, control, or processing centers. 5. A combination of circuits and terminals serviced by a single switching or processing center. 6. A combination of information transfer resources devoted to the interconnection of three or more distinct devices, systems or gateways. 7. Two or more systems connected by a communications medium.

Operational Test and Evaluation (OT&E)—1. Testing and evaluation conducted in as realistic an operational environment as possible to estimate the prospective system's military utility, operational effectiveness, and operational suitability. In addition, OT&E provides information on organization, personnel requirements, doctrine and tactics. Also, it may provide data to support or verify material in operating instructions, publications, and handbooks. (AFR 11-1 [will be replaced by AFDD 100]) 2. Testing and evaluation conducted in as realistic conditions as possible throughout the system's life cycle. Tests are conducted to verify that an information system is installed and capable of performing its operational mission as outlined in program documentation. OT&E is used to verify operating instructions, computer documentation, training programs, publications and handbooks.

Program—1. A combination of program elements designed to express the accomplishment of a definite objective or plan that is specified as to the time-phasing of what is to be done and the means proposed for its accomplishment. Programs are aggregations of program elements and, in turn, aggregate to the total Future Years Defense Program. 2. In computing, a sequence of instructions used by a computer to perform a particular function or solve a given problem (AFR 11-1 [will be replaced by AFDD 100]) . 3. For the purpose of this instruction, a program is a formally documented plan to acquire new, modified, additional, or expanded C4 resources or to remove specified resources to satisfy a requirement. A program includes documentation prepared by the C4 systems engineer that translates a requirement document into the engineering, supply, and installation data necessary to establish or change a C4 system capability. Programs are broken into projects for implementation at a specific location.

Program Action Directive—A formal planning document used to facilitate and record the accomplishment of a major action such as the reorganization or formation of a MAJCOM, organization, unit, or function. The PAD is also used to provide program direction on new acquisitions and modifications. It states the objective, defines a concept of operations, assigns specifics tasks to offices of primary responsibility and offices of collateral responsibility, and establishes milestones (AFR 11-1 [will be replaced by AFDD 100])

Program Action Officer (PAO)—The POC assigned to assist the program manager with the implementation of the requirement. PAOs may be located within the appropriate office of the Air Force functional manager; and the participating, supporting, operating, and implementing commands..

Program Manager (PM)—A general term of reference to those organizations directed by individual managers, exercising authority over the planning, direction, and control of tasks and associated functions essential for support of designated weapons or equipment systems. The authority vested in this organization may include such functions as research, development, procurement, production, materiel distribution, and logistic support, when so assigned (JP 1-02). The individual in the implementing command who has authority and responsibility for managing a program. There is only one PM for a given program but a PM may manage more than one program.

Program Management Directive (PMD)—The official Air Force document used to direct acquisition

or modification responsibilities to appropriate Air Force MAJCOMs for the development, acquisition, or modification of a specific weapon system, subsystem, or piece of equipment. It is used throughout the acquisition cycle to terminate, initiate, or direct research; development; production; or modifications for which sufficient resources have been identified. States program unique requirements, goals, and objectives, especially those to be met at each acquisition milestone or program review (AFR 11-1 [will be replaced by AFDD 100]).

Project—A planned undertaking of something to accomplish, produce, or construct, having a finite beginning and a finite ending (JP 1-02). The specific actions and resources necessary to implement a program at a specific location.

Project Officer—An individual, military or civilian, who is responsible for a planned undertaking or assignment to accomplish something specific. The project assigned is usually of limited life and not normally already established within organizational and supervisory channels (AFR 11-1 [will be replaced by AFDD 100]).

Project Support Agreement (PSA)—A document prepared by the C4 systems program engineer that describes: what equipment to install, sites agreed on; supporting construction; services required; operational, technical, or other constraints affecting a C4 systems requirement; and the responsibilities of the host base civil engineer, base C4 systems staff, and other supporting activities, including the user.

Request For Service (RFS)—A validated request for long-haul communications services or facilities prepared in a telecommunications service request (TSR) format as prescribed in Defense Information Systems Agency Circular (DISAC) 310-130-1, *Submission of Telecommunications Service Requests* (see AFI 33-116).

Requiring Command—The MAJCOM, FOA, or AF Functional Manager that needs a C4 system, service, or capability.

Self-Help Project—A C4 systems requirement satisfied by the local communications unit using available base resources (manpower, material, technical expertise, and so forth), including contractual services. 38 EIW normally does not provide installation services to a self-help projects. Coordinate significant self-help projects that may impact the base infrastructure with the STEM-B, before implementation.

Status of Resources and Training System (SORTS)—A Joint Chiefs of Staff-controlled, automated data system primarily created to provide the National Command Authorities and Joint Chiefs of Staff with authoritative identification, location, and resource information. It is used throughout the chain of command to measure the daily resource status of operating forces.

Support Force Sizing Exercise (FORSIZE)—Manpower assessment of Air Force total force wartime requirements (in place and deployment) based on Defense Planning Guidance and the ability to meet that demand. Shortfalls and overages are then considered by Air Force decision makers for resource action during Program Objective Memorandum preparation. Inplace requirements are determined during the Base Level Assessment. In this analysis phase, base-level functional planners along with operational, logistic and manpower planners identify the minimum essential manpower needed to support continuing base-level missions.

Systems Telecommunications Engineering Manager (STEM)—A C4 systems engineer who provides technical engineering planning services in support of C4 systems and base infrastructures. The base-level STEM (STEM-B) has technical responsibility for engineering management and assists the base CSO in

system engineering and configuration control. The STEM-C provides technical assistance to the MAJCOM and coordinates with STEM-Bs on future MAJCOM mission changes, programs and efforts at the MAJCOM level. The Joint Systems Telecommunications Engineering Manager (STEM-J) is assigned to CINCs, Joint Staff and DISA to promote interoperability by providing and interface between those activities and the Air Force MAJCOMs and bases. The Systems Telecommunications Engineering Manager-Telecommunications Manager (STEM-TM) assists the STEM-B and C.

Technical Architecture Framework for Information Management (TAFIM)—A DISA Center for Architecture multi-volume publication which provides guidance for the evolution of the DoD technical infrastructure. The TAFIM does not provide a specific system architecture. It provides the services, standards, design concepts, components and configurations that can be used to guide the development of technical architectures that meet specific mission requirements. The TAFIM applies to information system technical architectures at all DoD organizational levels and environments (tactical, strategic, sustaining base). The TAFIM uses Federal and National standards adopted by industry and international standards accepted worldwide by US allies.

Technical Reference Codes (TRCs)—1. Reference documents consisting of standards, policies, and implementation guidelines governing the interoperability of C4I systems design, implementation, and integration. 2. Air Force TRCs are the Air Force implementing vehicle for Volume 7 of the TAFIM. They provide and Air Force slant to the TAFIM by organizing its information more effectively, adding Air Force policy information, providing implementation guidance, and addressing a broader range of topics than the TAFIM (such as addressing voice and messaging capabilities). 3. There are two types of AFTRCs: 1) User Service and 2) System Component.

Time-Phased Force and Deployment Data (TPFDD)—The Joint Operation Planning and Execution System (JOPES) data base portion of an operation plan; it contains time-phased force data, non-unit-related cargo and personnel data, and movement data for the operation plan, including: a. In-place units. b. Units to be deployed to support the operation plan with a priority indicating the desired sequence for their arrival at the port on debarkation. c. Routing of forces to be deployed. d. Movement data associated with deploying forces. e. Estimates of non-unit-related cargo and personnel movements to be conducted concurrently with the deployment of forces. f. Estimate of transportation requirements that must be fulfilled by common-user lift resources as well as those requirements that can be fulfilled by assigned or attached transportation resources. (See JP 1-02)

Time Phased-Force and Deployment List (TPFDL)—Appendix of the operation plan. It identifies types or actual units required to support the operation plan and indicates origin and ports of debarkation or ocean area. It may also be generated as a computer listing from the time-phased force and deployment data. (See JP 1-02)

Unfunded Requirement—Resources needed to perform workloads or missions that have competed for funding in a POM exercise but have not been supported due to fiscal constraints, ceilings, etc.

Unit Type Code (UTC)—A five-character, alphanumeric designator that uniquely identifies each type unit of the Armed Forces. (JP 1-02)

Video Teleconferencing (VTC)—A two-way, electronic form of communications that permits two or more people in different locations to engage in face-to-face audio and visual communications for the purpose of conducting meetings, seminars, and conferences. A VTC system typically includes a telecommunications system, video compression equipment, and video, audio, and graphics components. DoD VTC equipment must conform to standards in the Corporation for Open Systems International VTC

profile that incorporates international standards for VTC.

Video Teletraining (VTT)—An electronic form of communications that uses high quality video, audio, and graphics equipment for the purpose of conducting training and education programs for students that are geographically separated from the instructor. The Air Technology Network is the Air Force Standard VTT network.

War and Mobilization Plan (WMP)—The Air Force supporting plan to the Joint Strategic Capabilities Plan. The six volumes of the WMP extends through the Future Years Defense Program to provide continuity in short-and mid-range war and mobilization planning. It provides current planning cycle policies and planning factors for the conduct and support of wartime operations. It establishes requirements for development of mobilization and production planning programs to support sustained contingency operations of the programmed forces. The WMP encompasses all functions necessary to match facilities, manpower, and materiel with planned wartime activity (AFR 11-1 [will be replaced by AFDD 100]).

Attachment 2

ARCHITECTURES, TEMPLATES, C4 SYSTEMS BLUEPRINTS, AND THE STEM

A2.1. Architecture. An architecture describes a target environment and how to proceed from the current baseline environment to the target environment. Technical architectures are living documents reflecting current technical strategy and are updated as technologies change and better ways to achieve integration are developed. MAJCOMs refine and tailor Air Force architectures to meet unique mission requirements.

A2.2. Templates. Templates facilitate the engineering of technical solutions for a specific MAJCOM. The template is a bridge between base C4 systems planner's activities, MAJCOMs, and EI activities. The template:

A2.2.1. Helps form a complete picture of operational requirements and supporting systems, a time-phased transition strategy, and the estimated resources required.

A2.2.2. Translates the broad direction provided by architectures, PMDs, policy, and generic technical and information analysis into concrete engineering approaches that help standardize and effect C4 system planning, programming, and budgeting for a specific command or functional area.

A2.3. C4 Systems Blueprints. This is the base road map for the evolution of its C4 systems infrastructure. The STEM-B prepares and maintains the C4 Systems Blueprint for the base's Wing Commander and CSO. C4 Systems Blueprints:

A2.3.1. Give the engineering overview required to implement the C4 systems infrastructure at a specific location.

A2.3.2. Depict requirements for current and planned C4 systems infrastructure, a schedule for implementing planned systems, and the estimated resources needed to accomplish the transition.

A2.3.3. The 38 EIW Systems Telecommunications Engineering Manager Directorate (38 EIW/ES) manages the C4 Systems Blueprint program. The 38 EIW/ES:

A2.3.3.1. Prepares, updates, authenticates, and releases the C4 Systems Blueprint according to attachment 3.

A2.3.3.2. Makes sure the C4 Systems Blueprint reflects the most current information available.

A2.3.3.3. Identifies digital data requirements and any discrepancies in CSIR information to the C4 EDSC.

A2.3.3.4. Coordinates with the base C4 systems planning and implementation flight to verify the accuracy of C4 Systems Blueprint information.

A2.4. System Telecommunications Engineering Manager (STEM). STEMs are engineers located within 38 EIW or its subordinate units who help define and plan future requirements for all bases. STEMs serve MAJCOM, wing commanders, and CSOs as C4 systems technical advisors to help manage and control the existing and future C4 systems configuration.

A2.4.1. STEM-C. Provides technical assistance to MAJCOMs and STEM-Bs. They also:

A2.4.1.1. Act as technical consultants and serve as a single point of contact to MAJCOMs.

A2.4.1.2. Assist and support MAJCOMs in POM submissions by providing costs, technical information, technical justifications, and solutions.

A2.4.1.3. Evaluate and review C4 systems blueprints to make sure of consistent DoD, Air Force and MAJCOM architecture compliance.

A2.4.1.4. Coordinate with STEM-Bs on future MAJCOM mission changes, programs, and efforts and ensure compliance.

A2.4.2. Base-Level STEM (STEM-B). The STEM-B:

A2.4.2.1. Serves the wing commander and CSO as a C4 systems technical consultant and assists the CSO in C4 system configuration control.

A2.4.2.2. Develops, updates, and maintains the base C4 Systems Blueprint, which includes the C4 system baseline infrastructure.

A2.4.2.3. Serves the user, C4 planner, and CSO by helping define user mission needs (when required) and, when those needs dictate a material solution, defines and clarifies user requirements.

A2.4.2.4. Plans, designs, costs and reviews technical solutions to user requirements, when the CSO requests assistance.

A2.4.2.5. Plans, and integrates base C4 requirements, and works to limit or eliminate duplication.

A2.4.2.6. Reviews C4 systems for architectural compliance.

A2.4.2.7. Integrates C4 systems and proposes implementation schedules.

A2.4.2.8. Reviews Military Construction Program plans, the base comprehensive plan, and C4 systems specifications for the impact on C4 systems.

Attachment 3

C4 SYSTEMS BLUEPRINT DEVELOPMENT, REQUIRED DOCUMENTS, AND CONTENT

A3.1. Introduction to C4 Systems Blueprint Development. The base C4 Systems Blueprint is a Host Wing and MAJCOM approved planning document. It covers the existing base infrastructure baseline, on-going programs, and short- and long-range planned systems. As such, the C4 Systems Blueprint gives a broad picture of what the base C4 infrastructure should be. It identifies C4 requirements, acts as an implementation plan, and serves as an authority to expend the necessary resources.

A3.1.1. As an implementation plan the C4 Systems Blueprint breaks into phases, attaches a broad-gauge cost to each phase, and is a basis for the BPID.

A3.1.2. The BPID serves as an authorization document to implement a specific portion of the C4 Systems Blueprint. The STEM may break BPIDs down into smaller phases, called elements, to provide additional flexibility to incrementally implement the phases, as operational mission needs and funding constraints dictate.

A3.2. The C4 Systems Blueprint Process.

A3.2.1. After the host wing substantiates and approves the C4 Systems Blueprint, the MAJCOM approves it as the base's overall C4 plan. This may authorize implementation of requirements defined within the C4 Systems Blueprint once funding is approved.

A3.2.2. When the base determines to fund a phase in a C4 Systems Blueprint, the base CSO advises the STEM-B to produce a BPID in coordination with the requiring activity. If the system user or requiring activity wishes to use 38 EIW as the implementation source, the STEM-B forwards the requirement to 38 EIS/DRP for assignment of a program manager. ***Note: (NOTE: With BPID submission, the customer authorizes the implementation of a phase, or portion of a phase, as long as the required funding will not exceed the cost stated on the BPID.)*** A phase may cover a larger scope than a "single stand-alone" requirement, and it is the customer's option to select what elements of a phase to implement. Large phases may have more than one BPID for ease of implementation. The 38 EIS/DRP coordinates with MAJCOMs to verify funds and placement on the MAJCOM Production Plan.

A3.2.3. After PM appointment, the PM forms an implementation team and plans a survey. The PM requests survey funds when the funding requirements are known. The survey verifies that the scope of work in the BPID is within cost and is detailed enough to write the PSA.

A3.2.4. The PM provides the customer with a technical solution, and program and funding schedules. The funding schedule delineates which types of funds are necessary, who pays, and the fiscal year funds are required. The PM coordinates problems with the base C4 systems planner, the user, and STEM-B to resolve the issues before proceeding with the PSA and implementation of the project.

A3.3. Development. The Stem-B:

A3.3.1. Documents or updates the C4 systems baseline.

A3.3.2. Surveys requirements and interfaces with the base CSO, the user, the base civil engineer, and other relevant functional areas.

A3.3.3. Assists in defining and clarifying C4 systems requirements.

A3.3.4. Plans, designs, costs, develops, and reviews the technical solution.

A3.3.5. Develops strategies to upgrade C4 systems and the infrastructure.

A3.3.6. Proposes the implementation schedule.

A3.3.7. Completes and publishes the C4 Systems Blueprint.

A3.4. Required Documents.

A3.4.1. A complete and accurate copy of the base cable assignment records.

A3.4.2. A copy of the base comprehensive plan or relevant portions of the plan.

A3.4.3. A copy of all civil engineering drawings showing supporting structures for C4 systems.

A3.4.4. A copy of each C4 systems requirement that may impact the C4 systems infrastructure.

A3.4.5. A list of personal communications system (cellular and land mobile radio) net and system diagrams.

A3.5. Content. The C4 Systems Blueprint contains:

A3.5.1. Executive summary.

A3.5.2. Background.

A3.5.3. C4 systems environment.

A3.5.4. Target C4 systems architecture.

A3.5.5. Transition strategy.

A3.5.6. C4 systems cost summary.

A3.5.7. Blueprint implementation planning.

A3.5.8. Appendices, glossary and index.

Attachment 4

FUNDING AND PRODUCTION PLANNING

A4.1. Requirement Funding. To get funding for C4 projects, you must translate manpower and technical requirements into concrete financial needs. The Air Force Biennial Planning, Programming, and Budgeting System (BPPBS) and AFPD 65-6 and its associated instructions explain this process.

A4.1.1. The first place the user looks for funding is local base resources. The installation budget office can be helpful in identifying sources and types of funding. If funding is not available at base level, the user may request resources from or submit an unfunded requirement to the next higher echelon. Throughout the planning processes, MAJCOMs and the engineering, implementing, procuring, and supporting activities must continue to identify and refine resource requirements needed to achieve program objectives. The USAF POM identifies the resources needed to fund the program. In addition, Air Force PMs and MAJCOMs must make sure C4 requirements that approve and fund program and project requirements are properly time-phased and included in the appropriate fiscal year budget. MAJCOMs include C4 systems O&M, EI, and investment costs in their budget submissions. The C4 systems planner helps the user make sure their MAJCOM's POM submission includes their requirements.

A4.2. Budgeting for Operations and Maintenance Support. MAJCOMs budget for C4 systems O&M support costs through their annual budget submissions. These costs include installation support equipment such as, cranes and fork lifts; installation support construction up to $15K; and post-installation equipment maintenance, and services and supplies. See AFI 65-601V1 and appropriate MAJCOM supplements for specific procedures and responsibilities for preparing budget submissions.

A4.3. Budgeting for Investment Items (Appropriation 3080). Many budget program activity codes (BPAC) are in this category of funding and each has its own rule in the budget process. "Other Procurement" (Appropriation 3080), BPAC 83XXXX is commonly used for acquiring C4 systems and equipment. The BPAC for other common equipment at base level is BPAC 84XXXX. Budget for BPAC 83XXXX and 84XXXX through the POM at MAJCOM and HQ USAF levels. Consult the budget officer for more detailed information. Follow the rules outlined in AFI 65-601(V1). The user and C4 systems planner must stay aware of the funding status of requirements at all times.

A4.4. Engineering and Installation Production Planning. Keep 38 EIS/DRP informed about the funding status of users' requirements. Implementing a C4 requirement using EI resources is a formal planning process that matches the capabilities of the servicing EI activity to base C4 needs. The 38 EIS holds periodic EI production planning workshops with MAJCOMs and involved agencies to discuss EI issues, agree on funding, and prepare implementation schedules for executable projects. The resulting production plan projects future requirements and sets MAJCOM priorities for the next fiscal year and for future years. (***Note: MAJCOM submissions include a prioritized listing of all command requirements, if requirements are EI implementation candidates.***) These priorities may differ from those of the Air Force-level program office.

A4.4.1. Base-Level Input for EI Production Planning. Each MAJCOM tasks its subordinate wing's or direct reporting unit's (DRU) CSO to review the need for each project that EI accomplishes and to provide a consolidated list of projects in priority order. In addition, the CSO reviews the status

of related activities that affect project implementation (for example, support construction or MCP completion dates, equipment availability, host nation approval, or connectivity issues). MAJCOMs consolidate individual wing submissions into a command production plan listing that is comprehensive and assigns priority to projects. MAJCOMs formally approve any departure that EI proposes to make from the command's priority listing.

A4.4.2. The EI Production Plan. The EI production plan is a "living" document, updated quarterly. It contains annexes for each MAJCOM and Air Force program. The production plan is a comprehensive list of MAJCOM projects and priorities (for detailed engineering and implementation support) compiled during quarterly interchanges with the MAJCOMs. Quarterly updates of the annex help MAJCOMs to review, revise, and modify C4 systems requirements. The production plan lists the ongoing (current fiscal year) and future EI production activities, the schedule for the next fiscal year, and planned future activities for 2 additional years.

A4.4.3. Production Planning for Other Than-Air Force Activities. The EI production plan suffices as an agreed position between participating Air Force activities, but it may not for other than Air Force activities. Determine if you must draft a definitive agreement such as a MOA or a MOU for transactions supporting non-Air Force requirements.

Attachment 5

PROJECT PLANNING PROCESS

A5.1. Be sure to consider the factors listed here during the planning process to ensure the successful integration of a C4 system into the base infrastructure.

A5.1.1. Access Roads. You may need temporary or permanent roads for site construction and installation or normal O&M of a C4 system. Allow plenty of time and money for their construction.

A5.1.2. Tools and Test Equipment. Make sure necessary equipment, including maintenance equipment, is available when required. Clearly define procedures and responsibilities in the early stages of the project to make sure equipment comes in on time and under budget.

A5.1.3. Financial Constraint. Plan for existing and anticipated financial constraints. Don't waste time preparing a project plan and completing all the documentation if the project costs will exceed approval limits and MAJCOM or Air Force funds are not available. Consider alternative solutions.

A5.1.4. Circuit Requirements. Provide communication circuits as part of the system installation. Determine circuit requirements and submit a RFS early in the project to meet the required date according to AFI 33-116.

A5.1.5. Contract Monitoring. Monitor contracts to help the procurement contracting officer (PCO) or the administrative contracting office (ACO), if delegated by the PCO.

Review and approve contractor products and schedules, participate in acceptance tests, and provide technically qualified on-site monitors during contractor installation, operation, and maintenance, as needed.

A5.1.6. Contractual Requirements. In addition to the major equipment or installation contract, you may need a contract to provide support facilities such as antenna pads, trenching and backfill, access roads, shelters, and security fencing. Adjust completion dates of these contracts to fit into the overall project implementation schedule.

A5.1.7. Contract Support. You may need contract support for manned or unmanned facilities. Learn to recognize requirements early and coordinate with programming and procurement agencies.

A5.1.8. Construction. Plan for any minor construction that may be necessary to provide an adequate physical environment for C4 systems equipment. This may include modifying existing structures, designing and building new structures, providing primary and backup power, building or modifying towers, pads, foundations and underground ducts, and providing environmental control equipment

A5.1.9. Cutover Plan. If necessary, develop a plan for discontinuing service from one facility or equipment and simultaneously initiating service with another. The cutover plan defines methods, equipment, circuits, and other actions that must occur to transfer services. It can be quite complicated to interface commercially leased and government-owned equipment. You will usually need temporary agreements between the Air Force and the contractor to accomplish this task.

A5.1.10. Easements. You may need to work with the BCE and legal office to develop miscellaneous formal agreements (for example, to get access to farm land to maintain buried cable or to restrict construction or activity in the vicinity of radiating or receiving devices).

A5.1.11. Environmental Control. Consider whether you need to control temperature, humidity, and air quality within a given area. Environmental control costs can be a considerable part of the installation effort.

A5.1.12. Equipment Removal or Relocation. Certain projects use equipment available from another location. Consider manpower, time, and costs associated with removing, packing, shipping, and servicing this equipment.

A5.1.13. Entry Rights. You may need a formal agreement with property owners or custodians to gain access to property for specified purposes (for example, site survey and testing).

A5.1.14. Equipment Storage. Allow enough space to assemble and securely store equipment, project materials, spares, and test equipment. Figure out how much time and space you'll need and arrange firm commitments with the host base. Tell procurement and the installing activity the storage facility location.

A5.1.15. Flight Checks. Use flight checks to determine the capability and acceptability of a flight-supporting C4 system after installation, upgrade, or retrofit. Identify flight check requirements in the project, phase them into the implementation schedule, and task the appropriate flight check agency to support the check.

A5.1.16. Frequency Authorization. Determine the proposed frequencies based on intended operational use, equipment limitations, geographical and environmental location, and host country authorizations. Submit a frequency authorization request and make sure you get approval by established milestones (see AFI 33-118).

A5.1.17. Host Nation Approval and Connection Approval. C4 systems, frequencies, and circuits for use outside the continental United States may require approval from the host government. Since getting host nation approval and connection approval is a long process, initiate it as soon as possible in the planning process. The responsibility for getting the approval rests with the theater commander but may be delegated to the component command agency most closely associated with the requirement. The base C4 systems planner must coordinate with the requiring activity and the theater or component command C4 systems staff agency to prepare, submit, and monitor the status of Host Nation Approval and Connection Approval for C4 Systems.

A5.1.18. Human Engineering. Operate and maintain equipment, facilities, and systems efficiently and effectively within limitations of available personnel. Include human factor limitations in the statement of operational requirements. Consider factors like personnel comfort, safety, equipment size and weight, floor plan layouts, lighting, control location, legibility of markings, fault alarms, site accessibility, and skill level of O&M personnel.

A5.1.19. Interface Requirements. Connecting two systems or facilities together may require an interface. Where two systems connect, a third device may be needed as a translator.

A5.1.20. Joint Occupancy. Two or more organizations may use in the same area or structure. When considering joint occupancy, formulate an agreement that defines responsibilities and tasks. DoDR 4000.19, *Interservice and Intergovernmental Support*, and AFI 25-401, governs interagency agreements. Consider the impact of these agreements on schedules, funding, materiel, manpower, personnel, and training.

A5.1.21. Life-Cycle Cost Benefits. Determine whether benefits of the expected life of a system or facility are worth the cost, or if leased, whether length of the contract is worth the overall cost.

A5.1.22. Maintenance Concept. Consider policy and procedures necessary for maintaining a C4 system. Concept should include location, number of like equipment, proximity to other sites, backup facilities, manpower training, and on-site versus in-shop repair.

A5.1.23. Manpower. Coordinate with the Wing Manpower Office and other staff agencies to determine personnel needed to support the stated operation. Establish realistic milestones to provide manning for the requirement if applicable. Consider the time required to establish new manpower authorizations. Also include time required to train personnel.

A5.1.24. Operating Procedures. Determine if existing operating procedures work for the proposed facility. Where you need new or modified procedures, establish milestones for preparing, compiling, reproducing, and distributing these procedures or changes to operating units or locations.

A5.1.25. Physical Security. Physical security requirements vary with the type of C4 systems facility and are requirements affected if the system processes classified information or uses COMSEC equipment. Remote, unattended sites and those that contain a potential hazard to personnel may require installation of security devices or special construction to prevent entry by unauthorized people.

A5.1.26. Site Surveys. You may need to arrange on-site visits by an engineer or engineering team to select suitable equipment locations, establish requirements for major and minor construction, power, and environmental control, and identify base support required during installation. Formalize the results of these visits in a PSA (see attachment 6).

A5.1.27. Software. ADP programs are sometimes developed for test, operation, or maintenance of C4 systems. Consider software development and debugging time when establishing schedules.

A5.1.28. Statement of Work (SOW). The SOW specifies the type of work, the quantity of work required, and the services a contractor must provide. The SOW may also require the contractor to provide end-items of equipment. Equipment performance exhibits, which are part of the SOW, define technical requirements of equipment. The base procurement office can provide examples of SOWs.

A5.1.29. Structural Analysis. A structural analysis evaluates the engineering of an existing or planned structure to determine whether it can accommodate equipment adequately and safely. While normally applicable to towers, you should also obtain a structural analysis when installing heavy equipment in existing buildings. Engineering time factors are critical, particularly where there are existing structures and you don't have their basic design data.

A5.1.30. EMSEC. If you fail to consider compromising emanations, a breach in security may occur. Follow the established criteria for physical, mechanical, acoustical, and electromagnetic security of areas processing classified information.

A5.1.31. Test Plan. This document, developed before installation is complete, tells how to test a C4 system to confirm that it functions as required. Identify any special test equipment in the test plan and include it in the programming document. Also consider the composition, skills, source, and cost of deployment of the test team and how long you need to conduct tests.

A5.1.32. Environmental Concerns. Determine the impact of such environmental concerns as asbestos removal, wildlife preservation (including endangered species), and historical buildings have on project implementation. Also consider geographical location and operating environment when determining such factors as air conditioning, special treatment of equipment for protection against humidity, fungus, and salt spray. Extremes in climate during certain months may affect installation

and program schedules. For example, you cannot erect towers in high winds and low temperatures, you cannot bury cables in frozen ground, you cannot move heavy equipment on unimproved roads in the rainy season, and you cannot store some materials outside. See AFI 32-1021, *Planning and Programming of Facility Construction Projects,* for more information.

Attachment 6

DEVELOPING AND MAINTAINING THE C4 SYSTEMS DIRECTIVE C4 SYSTEMS PROGRAMMING PLAN, AND PROJECT SUPPORT AGREEMENT

A6.1. CSD Instructions and Format.

A6.1.1. Function of the CSD. CSDs document key decisions, assign responsibilities, define program scope, and authorize specific actions. Use the CSD to initiate or terminate a C4 systems program. The implementing command develops CSDs and coordinates with all program participants before formally issuing the document. Prepare CSDs in the format indicated below. The scope and complexity of the program determine how much detail you need to include in the CSD.

A6.1.2. Format and Content.

A6.1.2.1. Use the title, number, and date of the related requirements document.

A6.1.2.2. Objectives. Clearly indicate the specifics of the program to:

A6.1.2.2.1. Direct the development or modification of a C4 system or any element thereof.

A6.1.2.2.2. Appoint a PM responsible for developing and implementing the C4 system.

A6.1.2.2.3. Direct the development of a PM charter or CSPP.

A6.1.2.2.4. Provide technical, acquisition, and managerial guidance, and funding data, including studies or requirement analyses, to help in selecting and acquiring C4 systems resources related to the project.

A6.1.2.2.5. Direct management reviews performed at selected milestones by the PM and other activities, as required.

A6.1.2.3. Program participants and tasking. Identify the program participants and specify their responsibilities, including their involvement in the preparation of the CSPP. Include: the PM; functional OPR; design, development, procurement and installation activities; and the C4 systems, logistics, security, contracting, training, and manpower activities.

A6.1.2.4. Special requirements. Criteria vary depending on the project's purpose, scope, cost, and complexity. Some items to consider are:

A6.1.2.4.1. Legal, policy, or procedural constraint.

A6.1.2.4.2. Interface or integration (identify all affected systems; define levels of interface and methods used to achieve integration).

A6.1.2.4.3. Program management relationships. Indicate the line of management responsibilities, such as PAO to PM and PM to organizational commander.

A6.1.2.4.4. Security, prototyping, ADPE, site preparation, communications, software, training support, configuration management, privacy, system reviews, and related reporting.

A6.1.2.4.5. Designation or required designation of user representatives authorized to perform systems reviews and audits.

A6.1.2.5. Financial resources. Include the program element code (PEC) and the element of expense identification code (EEIC) that provide resources and funding limitations, if appropriate.

A6.1.2.6. Significant milestones. Provide significant anticipated milestones and related reporting. Refine these milestones in the CSPP. Identify which milestones require an up-to-date economic analysis.

A6.1.2.7. Approval. Have all program participants coordinate and have the implementing command CSO sign.

A6.2. CSPP Instructions and Format.

A6.2.1. Function of the CSPP. The CSPP outlines the actions necessary to fulfill a funded and approved requirement. During program development, if the program cost increases by 20 percent or more over the formal estimate or if an additional manpower need exists, the PM must notify the requiring and implementing activities CSO, and confirm that the original requirement still exists.

A6.2.2. Format and Content. Tailor the level of detail to the scope and complexity of the program you are managing.

A6.2.2.1. Title page or cover page. The title page of the CSPP includes the security classification, program title, and program authority (CSD or PMD title and control number); the PM's name, organization, and telephone number; and the date.

A6.2.2.2. Distribution list.

A6.2.2.3. Program summary. Briefly discuss the purpose, objectives, description, assumptions, constraints, and limitations.

A6.2.2.4. Program management organization and personnel. Briefly describe the program management structure and include a list of functional area POCs.

A6.2.2.5. Program participants and taskings. Identify and briefly describe the government and contractor organizations involved. Describe responsibilities and the formal agreements setting up organizational interfaces. Taskings includes responsibilities for developing the concepts of operation, and engineering, maintenance and support plans. Participants in C4 systems programs normally include representatives from the requiring, implementing, logistics, manpower (including O&M), training, and OT&E activities.

A6.2.2.6. Major milestones. Set the milestone schedules essential for timely accomplishment of the program. As a minimum, include in this section: milestone schedules of major events; production and delivery schedules; training, test, acceptance, and logistics support schedules; and programmed funding profile.

A6.2.2.7. Reporting. Identify any required reports as determined by the PM. Such reports may include progress, configuration management and problem reports.

A6.3. Project Support Agreement Instructions and Format.

PSA Sample Format

MEMORANDUM FOR (Address PSAs to the Base CSO or Host Base Commander.)

FROM: (The servicing EI activity.)

SUBJECT: Project title, location, project designator. (SUSPENSE: DD/MM/YY)

1. Program Information:

a. Project Designator: (Use complete four element designator.)

b. Provide the purpose of the programmed facility or equipment. Insert summary of applicable part of programming document. State that it is an upward generated or downward directed requirement. For all downward directed requirements, add: PMD _____, dated _____, authorizes this project, Program Title: _____, USAF Precedence Rating: _____, FAD: _____. Allocation of base design, contracting and construction resources for this project consistent with the above FAD as implemented in AFI 16-301, US Air Force Priority System for Resources Management.

c. Authority for the site survey is tasking letter or message, C4 requirements document or BPID, then insert appropriate date.

d. USAF Precedence Rating: (Use only if upward generated requirement).

e. Host Nation Approval and Connection Approval: (if applicable).

2. Siting and Project Installation Data: Attachment 1 of the PSA contains the siting and project installation data.

3. Civil Engineering Support Requirements: Attachment 2 of PSA identifies the host civil engineering activity support requirements.

4. C4 Systems Support Requirements: Attachment 3 of the PSA identifies the host base support requirements.

5. Base Support Requirements:

a. The host base provides supply, local purchase, and construction services. The CSO should take no action to procure materiel items coded "C" unless specifically instructed to do so by the assigned EI activity.

b. Identify and manage materials containing asbestos, polychlorinated bi-phenals (PCB)s, lead acid batteries, lead based paints, creosote treated telephone poles, hazardous materials storage sites, and hazardous wastes storage sites as defined in OSHA 1926.58, Toxic Substance Control Act for PCBs-40 CFR 761; the Clean Water and Clean Air Acts, CFR-40 parts 260 through 270; OSHA 1910.1200, Resources Conservation and Recovery Act; and the Federal Facility Compliance Act.

c. The host base, project site owner, CSO or responsible agency makes sure the proposed work site undergoes an environmental assessment with special attention to asbestos containing materials, PCBs in transformers, capacitors, buried or stored hazardous wastes, lead acid battery banks and systems in close proximity to or use hazardous materials to include fuels. Complete the environmental assessment with data available before any type of demolition, removal, and construction antenna, tower, or equipment upgrades proceed. Provide project engineers data on any and all hazardous materials or hazardous wastes through the PSA.

d. The CSO makes sure the host base verifies duct availability, condition, and usability.

e. The CSO gets appropriate permits for entering confined spaces and controlled areas for the EI team. Obtains logistics support, consisting of technical data, spares, training, equipment, maintenance, and technical assistance through local base resources, the host command, or the equipment manufacturer. The EI activity assists the CSO with the logistics support with specifications for the applicable commer-

cial-off-the-shelf (COTS) equipment and vendors. NOTE: Accomplish these actions by the installation start date (ISD). The EI activity provides: Vendor: (Name, address, phone, and point of contact; Equipment Items: (Part number, model number, versions, and quantity); and Technical Support Information: (Part repair and replacement, technical support numbers, POC and cost).

6. Implementation Schedule Dates.

a. The CSO coordinates the anticipated allied support completion (ASC) date for support covered in attachments 2 and 3 with the EI implementation manager. The CSO should not delay their concurrence with the support identified in the PSA based on the ASC date. PSA concurrence is based on the capability of the host base to support requirements identified in attachments 2 and 3, not when the support requirements can be done. If the projected ASC date is changed, the CSO notifies the EI implementation manager and user. Implementation milestones are adjusted to reflect the new ASC date.

7. Funding: The host base or command funds for program implementation.

8. PSA Processing:

a. The CSO makes sure the EI implementation manager receives the PSA concurrence. Process the PSA and provide concurrence as defined in paragraph 8b within 30 calendar days. If you cannot meet the schedule, the CSO provides the EI activity and all distribution addresses the following information:

(1) PSA identification.

(2) Reasons for delay.

(3) Estimated date you send the PSA endorsement. No engineering action is finalized until the supporting EI activity has the endorsed PSA. NOTE: In all cases, a draft PSA is left on site to expedite the PSA concurrence process. A formal PSA is sent and requires concurrence according to paragraph 8(a). Additionally, on occasion, the EI engineering activity may accomplish on site PSA concurrence for

upward generated requirements with limited host base support. The need for on site concurrence is a joint engineer and CSO decision. On site concurrence reduces implementation cycle time by one to three months.

b. PSA concurrence contains the following:

(1) Concurrence with the equipment or facility siting.

(2) Concurrence with all supporting requirements, service, and ASC date.

(3) Support project request number or BCE work order number and date submitted with a brief description and title of project.

(4) Installation personnel security clearance requirements.

(5) A statement whether there are any contractual obligations, that may involve penalties, associated with the anticipated implementation schedule dates for this project.

(6) EMSEC requirements, if applicable, according to AFI 33-203, The Air Force Emission Security Program, and other current Air Force guidance.

(7) This paragraph contains special requirements deemed necessary by the host base. For example, continental United States (CONUS) based EI personnel are not all chemical warfare defense (CWD) trained and do not routinely carry CWD equipment on installation projects due to additional baggage and costs. If, based on the threat, the team members require CWD equipment and training, the CSO notifies the EI implementation activity at the earliest date. If the threat changes during the preparation phase for this project, notify the EI implementation manager to make adjustments.

(8) Accomplish an asbestos survey certification according to AFI 32-1052, Facility Asbestos Management.

(Project Engineer Signature Element)

(Office Section or Branch name)

Attachments:

1. Siting and Project Installation Data

2. Civil Engineering Support Requirements

3. C4 Systems Support Requirements

4. Drawing List with Drawings

cc:

Host Base C4 Project Management Activity

Host Base Civil Engineer

MAJCOM Civil Engineer

Active duty project engineering function (For ANG engineered projects only)

MAJCOM/SC Focal Point

MAJCOM EMSEC office (if EMSEC considerations are involved)

Other addresses as appropriate

Attachment 7

C4 SYSTEMS PROGRAMMING PLAN SUPPORT PLANS

A7.1. Function of the CSPP Support Plan. Use one or more CSPP support plans when the program is too complex to define it within the limited scope of the CSPP.

The PM uses support plans to provide additional detail and guidance and organizes them to suit particular programs. Consider support plans to cover security; training; civil engineering; maintenance, manpower; contracting, acquisition, and source selection.

A7.2. CSPP Support Plan Format and Content. The PM determines development of support plans. Recommended format for a support plan is:

A7.2.1. Classification.

A7.2.2. Title of CSPP.

A7.2.3. Title of Support Plan.

A7.2.4. OPR.

A7.2.5. Coordination Page.

A7.2.6. Table of Contents.

A7.2.7. Body

A7.2.8. Terms and Abbreviations.

A7.2.9. Distribution List.

Attachment 8

PROJECT MANAGEMENT TASKS

A8.1. Self-Help Projects. A base can help itself by initiating and managing a project through to completion without directly involving the MAJCOM. Self-help installations may save time and money; however, use extreme caution in developing self-help projects to ensure that they are architecturally compatible and cost-effective. Also make sure to take into account how self-help projects will affect manpower, money, and materiel resources for the O&M of the C4 system. The base must coordinate with the STEM-B to avoid duplication of effort or systems integration problems. Follow local or MAJCOM procedures in documenting the project. Identify the project manager, project participants, source of funds, and authority for the project. Document and identify all tasks needed for project development and assign specific responsibilities for carrying out each task.

A8.2. RFS. Submit an RFS to get communications connectivity to support the project. Use an RFS to get leased or Government-owned circuits or paths. Submit an RFS to the MAJCOM, allowing sufficient lead time before the required service date, if the project requires connectivity. See DISAC 310-130-1 for more information on lead times, which range from 23 to 475 days.

A8.3. Logistics Support. The base C4 systems planner must address logistics support needs before accepting new or upgraded C4 systems or equipment. Make sure you know what supply support, special equipment and tools, technical data, appropriate training, and training support the project requires.

A8.4. Maintaining Project Folders. Project folders contain all the documents that constitute a formal C4 systems project. Review these project folders periodically and keep them active until eliminating all installation exceptions. Transfer the project file to the CSIR file after installation certification. Purge information that is not of historical value and maintain according to AFI 37-138, *Records Disposition-Procedures and Responsibilities* and AFMAN 37-139, *Records Disposition Schedule.*

A8.5. CSIR. The CSIR Manager maintains CSIRs at base level and establishes and maintains a master CSIR file for C4 systems or facilities. The manager makes sure the CSIRs are reviewed annually, annotates drawings for correction and sends them to the C4 Engineering Data Service Center (C4 EDSC), 38 Mission Support Squadron (38 MSS/EGM), Hilltop Road Ste 111, Building 4005, Tinker AFB OK 73145-2713, and notifies the servicing EI activity of major self-help installations that affect CSIR drawings or the status of future engineering efforts. On completion of the project, the manager submits revised as-built or as-installed drawings to the C4 EDSC. See AFI 21-404 for more information.

A8.6. PSA. The PSA formally documents C4 systems requirements and approval for base support. Notify the project manager of any changes that affect the local support. Coordinate PSAs with the C4 user and all tasked agencies. Make sure all PSAs document the equipment to be installed, sites or locations agreed on, supporting construction, services required; and operational, technical, or other constraints affecting the C4 installation. Resolve any disagreements and consolidate any concerns in the PSA endorsement. The PSA for some upward generated requirements with limited host support may be concurred on site, though this is a joint EI engineering activity and CSO decision. Provide an interim reply to the engineering activity if you need extra time to complete the endorsement. The appropriate authority endorses the PSA and returns it to the originating activity. Document follow-ups with affected agencies

in appropriate sections of the project folders. These follow-ups are essential since PSAs may be published, coordinated, and signed several years before the required support dates. Consider using locally developed PSAs when implementing requirements without EI assistance.

A8.7. Project Package. This package documents and translates a funded and approved C4 systems requirement into the engineering, supply, and installation data necessary to establish or change a C4 systems capability. Review project packages with all affected agencies to identify potential problems. Resolve all questions and comments with the STEM-B and project engineer before the installation team arrives.

A8.8. Support Construction. Support construction verification is one of the most important milestones in a project. Conduct an itemized verification of every support construction item listed in the PSA. Base C4 systems planners must personally verify the construction status with the civil engineering project monitor and should physically visit the job site with the communications project monitor, to ensure completion of construction.

A8.9. Receiving and Storing Project Materials. Ship project materials to the base supply account of the requiring base. Find out the status of project materials from the project warehouse POC. Host base supply receives, inspects, accounts for, and stores project materials. Make sure only base supply personnel, installation team chiefs, or duly authorized personnel have access to project materials.

A8.10. Systems Installations. Line up all necessary site support through appropriate base agencies before the installation team arrives. Provide installation status reports to base staff functions as required. Send all problems encountered during installation to base C4 systems planners for resolution.

A8.11. Work Stoppage. If the installation team must stop work and depart, the installation team chief inventories, recreates, and secures all uninstalled project materials. The team chief, the base CSO, and the user sign appropriate documents to show custodianship, project status, equipment and project material responsibility, and the projected date when installation will restart.

A8.12. Civil Engineer Work Request Management. The C4 systems planner processes requests for BCE support, attends facility utilization board working groups and work request review meetings, and maintains the status of all work requests. They also help or advise C4 unit personnel on proper methods of getting BCE support. Consider civil engineering work classification and how to fund civil engineering work when managing civil engineering work requests.

A8.13. Civil Engineering Work Classification. Get allied support for a project through civil engineering. The base-level C4 systems planner must stay aware of the categories the civil engineering community uses to classify its work. Coordinate funding for civil engineering work with the civil engineer. See AFI 32-1021, AFI 32-1031, and AFI 32-1032, *Planning and Programming Real Property Maintenance Projects Using Appropriated Funds (APF).*

A8.13.1. Maintenance (Appropriation 3400, EEIC 521). Maintenance refers to the day-to-day work required to preserve real property facilities and prevent premature failure or wearing out of systems components. It includes work to prevent and arrest component deterioration, and also includes work required to restore components that have deteriorated, but which have not completely failed or

exceeded their economic life. Real property includes fixtures, equipment, and other items that are part of the structure or building.

A8.13.2. Repair (Appropriation 3400, EEIC 521). Repair is that work required for any facility (that is, building, utility system, or other real property infrastructure, or facility component), to restore its safe, effective, and economical support of assigned missions and organizations. See AFI 32-1032, paragraph 3.3.2. for further information.

A8.13.3. Construction (Appropriation 3400 or 3300). Construction is a single undertaking for construction of one or more real property facilities and includes new construction, upgrade, major alteration, land acquisition, and necessary equipment for a specific purpose to produce a complete and usable facility. Classify construction work as minor or major as follows:

A8.13.3.1. Minor construction (EEIC 529). 10 United States Code 2805 authorizes minor construction projects, and military construction projects for a single undertaking that have an approved cost equal or less than $1.5M. O&M appropriations authorize funds for minor construction projects costing $300,000 or less. See AFI 32-1032, paragraph 3.3.3. for the types of minor construction projects. Each MAJCOM budgets for these funds on a yearly basis.

A8.13.3.2. Unspecified minor construction work (Appropriation 3300/P-341). Unspecified minor construction is work with a funded cost between $300K and $1.5M. The requirement is unforeseen and of such an urgent nature that it cannot wait for the next MCP. HQ USAF/CEC funds unspecified minor construction work (line item P341) to the using MAJCOM. These funds are very limited and allocated by project from HQ USAF/CEC based on their latest P-341 project priority listing. See AFI 32-1021, Chapter 4, for more information.

A8.13.3.3. Major construction work (Appropriation 3300/P-321 or P-331 if overseas). The MCP provides major facility construction on Air Force installations. It includes construction projects for all types of buildings, airfield pavements, and utility systems costing $300,000 or more. It can also include repair projects costing $300,000 or more, but normally repair projects are accomplished from O&M or Defense Business Operation Fund. Military construction includes any construction, development, conversion, or extension of any kind carried out with respect to a military installation. It includes all construction work necessary to produce a complete and usable facility or a complete and usable improvement to an existing facility. A base submits projects by individual project line item, through its MAJCOM, to HQ USAF and the Office of the Secretary of Defense, for congressional authorization and appropriation in the MILCON program. Additionally, a 6-year MILCON program is developed for the POM. See AFI 32-1021, Chapter 3 for more information.

A8.13.4. Work Done for Others. The BCE may perform other types of work not directly related to real property maintenance, repair, or construction and does not fit the work categories described above. Common examples include burying communications cables, work on non-real property equipment (that is, equipment listed on the Equipment Authorization Inventory Data account, or installing raised flooring or air conditioning for computer equipment [see AFI 65-601, Volume 1]). Use EEIC 592 for this work. This type of work is not subject to the limitations placed on repair or minor construction.

Attachment 9

INSTRUCTIONS FOR COMPLETING AF FORM 1261, COMMAND, CONTROL, COMMUNICATIONS AND COMPUTER SYSTEMS ACCEPTANCE CERTIFICATE

A9.1. Function of AF Form 1261. Use AF Form 1261 for acceptance and certification of a C4 systems installation, modification, removal, or transfer. This document remains as part of the historical data maintained in the CSIR throughout the system or equipment life cycle. The base C4 systems planning and implementation activity and the EI activity make sure AF Form 1261 is prepared and properly annotated. Block 10 of the form annotates system acceptance and Block 11 annotates its certification by the base CSO and the system's user.

A9.2. Filling Out AF Form 1261. Block 1 - Title. Give a complete description of the system installed, modified, or removed. Include the EI project number if one has been assigned.

Block 2 - Base. Give the name of the base, post, station, or locale of the system or equipment.

Block 3 - Building and Room. Identify the building and room numbers of the system or equipment. If no building or room designation is available, describe its location.

Block 4 - User. Identify using organization whose operational mission the system supports. This organization may be different from the operating or maintaining activity.

Block 5 - Document Authorizing System. Provide title and numbers of the PMD, CSD, or similar requirement document which authorized the action.

Block 6 - Related Project or Contracts. List all other projects or contract actions related to this action.

Block 7 - Major Items Installed, Removed, or Transferred. List the major items of equipment (as accounted for in the Air Force Equipment Management System [AFEMS]). Fill out this section with help of the appropriate equipment custodian. If the equipment installed is ADPE, adapt similar blocks in 7A-G to reflect the information processing management system (IPMS) data fields as needed.

Block 8 - Narrative Project Summary. Describe the project action, including project identifiers (for example, Global Command and Control System (GCCS), Combat Information Transfer System (CITS), next generation radar [NEXRAD]), mission, and units the project supports.

Block 9 - Inspection and Transfer Summary. Mark the applicable boxes 9A-I as appropriate with "X" or "NA". Make sure to attach appropriate test, equipment accountability, and property transfer documentation to AF Form 1261. Make sure that the drawings provided by the installation activity accurately reflect the installation of the system or equipment. If the project was a removal action, the drawings should depict the system or equipment removed and the new layout of the remaining system or equipment.

Block 9J - Description of Minor Exceptions. List the minor exceptions to the project. Identify the activity that is responsible for correcting the listed exception (as agreed upon) with the forecasted date of correction. Bring conflicts to the attention of the PM for resolution.

Block 10 - Acceptance Certificate. The signatures in these blocks document the activity's satisfaction with the project. If the project is installed by a contractor, attach a copy of the DD Form 250 to AF Form 1261. Use additional signatures at the discretion of the host MAJCOM, user, or base communications activity.

Block 11 - Certification. The signatures here signify corrected project exceptions and a logistically supportable system. In addition, the base CSO and the system's user accept the system for their operational mission. The date when the user signs the certificate is the effective date of the document.

A9.3. Distribute the AF Form 1261 according to prescribed program and MAJCOM procedures. The original AF Form 1261 must remain a part of the CSIR historical file.

Attachment 10

BASE LEVEL MOBILITY TASKING LIST

A10.1. General. The Base CSO is the POC for the communications aspects of all plans that affect the wing. The C4 systems planner assists the CSO with the day-to-day duties associated with plans management and support as the Unit Deployment Manager (UDM). The planner is the liaison between the communications activity, and the Installation Mobility Officer (IMO) or IDO. The planner represents the communications unit on all plans related activities, makes sure plans are evaluated, and coordinates all taskings to make sure all mobility planning is complete. The planner must understand the types and purposes of plans, the SORTS, and all personnel and equipment requirements. Accomplish duties according to AFMANs, AFIs and MAJCOM and local guidance.

A10.2. Plans Evaluation Management and Preparation Duties. Proper plan evaluation makes sure relevant portions of the communications unit make a comprehensive review of each plan that tasks wing activities. It also makes sure the required equipment and personnel are identified and ultimately available to support the taskings. Key considerations and tasks are:

A10.2.1. Coordinate all unit taskings within the communications unit to assess the impact and determine supportability. A knowledge of the wing and units' missions is helpful. Assign a unit OPR (and possible OCRs) for the plan who evaluate the requested resources, determine required resources, and identify resource availability. Make sure the review considers taskings as a result of other plans. Determine the need for additional plans annexes.

A10.2.2. Determine and differentiate between reportable and non-reportable taskings. Reportable taskings result from (UTC requirements listed in DOC statements. Non-reportable taskings usually result from disaster preparedness, continuity of operations, programming plans, among other things.

A10.2.3. Proper administration of plans results in effective and timely response to user requirements. Key tasks include: receive, log, and safeguard all incoming plans; distribute plans to unit OPRs and OCRs; post, distribute and analyze changes to active plans; integrate the plans into the office file plan according to AFI 37-138 and AFMAN 37-139; maintain the plans library; review all plans indexes for currency; maintain the unit master plans file; and create, update, and distribute the unit plans index.

A10.2.4. As the C4 focal point for all exercise plans there are numerous responsibilities which include: participate or ensure the unit is represented in Master Scenario Events Listing (MSEL) development and implementation; attend planning and post-exercise meetings; review the communications squadron's responses to exercises, determine shortfalls, develop shortfall solutions, and implement solutions; and brief the communications unit commander and staff.

A10.3. Unit Deployment Manager Personnel Duties. Many tasks are required to make sure personnel are available to support the plans. (***Note: In most Air Force Reserve deployable units the Unit Deployment Manager is known as the Unit Mobility NCO/Officer.***) Some of these tasks include:

A10.3.1. Accurate identification of mobility tasked personnel and timely notification via accurate recall rosters.

A10.3.2. Process personnel according to the guidance in the applicable operations plan.

A10.3.3. Develop a checklist of personnel processing requirements which include: mobility readiness folder for each person; ensure proper security clearance and immunizations (with shot record); current passport, proper mobility bag, medical and training folders (when deployed beyond 30 days); DD Form 2 AF, Armed Forces Identification Card; dog tags and chains; AF Form 1141, current leave and earnings statement; government drivers license; AF Form 1199, USAF Restricted Area Badge, two pairs of eyeglasses, a 60 day supply of medications, spectacle inserts for the gas mask, AF Form 522 USAF Ground Weapons Training Data, wills, powers of attorney and financial affairs in order.

A10.3.4. Coordinate transportation requirements for the deployed personnel.

A10.3.5. Ensure the UTC tasking can be satisfied by available authorizations in the UMD. The UTC reflected in the UMD should match the Manpower and Personnel Force (MANFOR) requirements, all coded UMD positions must be reflected in the Unit Personnel Management Roster (UMPR), and all coded UMPR positions must be filled by mobility ready personnel.

A10.4. Unit Deployment Manager Training Duties. The C4 systems planner and deployable unit personnel must be properly trained. The IMO or IDO and various wing activities provide training. The planner ensures, with the assistance of unit supervisory personnel, that deployable unit personnel are trained. The planner will accomplish the following to ensure their training and that of deployable unit personnel:

A10.4.1. Be familiar with MANFOR and LOGDET products.

A10.4.2. Attain training to perform SORTS reporting.

A10.4.3. Advise the IDO or IMO when training deficiencies occur and provide status reports as requested.

A10.4.4. Ensure formal mobility training is documented via AF Form 1098 or CAMS.

A10.4.5. Conduct initial and follow-on briefings to the CSO and IDO or IMO regarding personnel taskings in the Time Phased Force Deployment Data (TPFDD), Time Phased Force Deployment Listing (TPFDL), and UTC, and deployment responsibilities as required.

A10.4.6. Ensure deployable unit personnel are trained in the following areas (as required): cardiopulmonary resuscitation; self-aid and buddy care; combat skills familiarization, law of armed conflict, personal and family readiness, chemical warfare; hazardous material certification; explosive ordnance reconnaissance, mobility bag inspection procedures; equipment operation, maintenance, and preventive maintenance inspections; Battle or Contingency Support Staff tasks; cargo marking, packing, palleting, and inspection procedures; generator and vehicle operations; and cargo courier duties.

A10.5. Unit Deployment Manager Equipment Readiness Duties. On-hand equipment must be 80 percent serviceable and ready to deploy. The C4 systems planner takes several actions to ensure equipment readiness. These include: ensure operators develop schedules to test deployable equipment in an operational environment; ensure periodic checks of equipment in storage; and monitor quantities of on-site equipment to ensure mobility requirements can be met. Periodically advise the CSO, the unit staff and IMO or IDO . Report Category Level (C-level) data as required.

A10.6. Unit Deployment Manager Equipment and Supply Duties. On-hand deployable equipment must match authorized deployable equipment and deployable personnel and equipment must have the necessary supplies and other logistics support. Of particular concern are resource management, mobility

bags, cargo management, hazardous material, weapons and ammunition, chemical warfare equipment, and tools.

A10.6.1. Mobility Bags. Make sure mobility bags are available for all deployable personnel Make sure: A, B, and C mobility bags are built; C mobility bags are inspected for chemical gear expiration and serviceability on a regular basis; document the issue of mobility bags in readiness folders; and maintain 10% more bags than deployment commitments, to support alternates.

A10.6.2. Cargo Movement. All cargo requirements are met by assigning cargo increment monitors; verifying all pallets are complete; coordinating weapons, ammunition, and hazardous material shipments with wing logistics activity; selecting personnel to prepare pallets; making sure pallets are delivered to the marshaling area; preparing cargo shipping paperwork; and making sure the cargo is packed and marked. Additionally, make sure cargo couriers are appointed in writing and identified in the Mobility Requirements Resource Roster (MRRR), and shipping containers are on-hand and serviceable.

A10.6.3. Hazardous Material. Take special care when dealing with hazardous material. Make sure semi-annual inspections of deployable equipment and material are conducted to identify hazardous material. Make sure hazardous material is properly marked and identified prior to shipment, and make sure trained individuals are identified in writing to certify hazardous material for shipment.

A10.6.4. Resource Management. To make sure of resource management, the C4 planner must:

A10.6.4.1. Know the location of all equipment, make sure technical data is available, know equipment assembly time, and make sure all logistics issues are addressed.

A10.6.4.2. Keep the CSO, the unit staff, and the IMO or IDO informed of the status of deployable equipment support status.

A10.6.4.3. Prepare and manage budget requirements for mobility equipment and supplies, and make sure items are replenished and accounted for.

A10.6.4.4. Review the LOGDET to match UTCs with equipment requirements and make sure supplies for each UTC are available.

A10.6.5. Chemical Warfare Equipment. Store, account for, and provide chemical warfare equipment to deployment personnel. Storage and accountability may be delegated.

A10.6.6. Weapons and Ammunition. Obtain sufficient weapons and ammunition to support mobility requirements and make sure of appropriate storage and accountability.

A10.6.7. Tools. Make sure individual, professional and composite tools kits are budgeted for, acquired, provided to personnel, maintained and deployed.

(ADDED-AFMC) GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS AND TERMS

Abbreviations and Acronyms

DAA—Designated Approval Authority

AFAM—Air Force Acquisition Model

Terms

Wing Information Protection Officer—Office charged with the responsibility for managing and executing the C4 systems security program for the base or wing. The office reports to the MAJCOM C4 systems security office and provides security guidance to organization C4 systems security offices or appropriate unit officials (communications security managers, communication computer systems officers, network security officers, education, training and awareness program managers, and TEMPEST users).

ATTACHMENT 8 (ADDED-AFMC)

PROJECT MANAGEMENT TASKS

A8.2. (Added-AFMC) Request for service projects requiring con-nectivity needs to be submitted to AFMC computer systems office/SCS.